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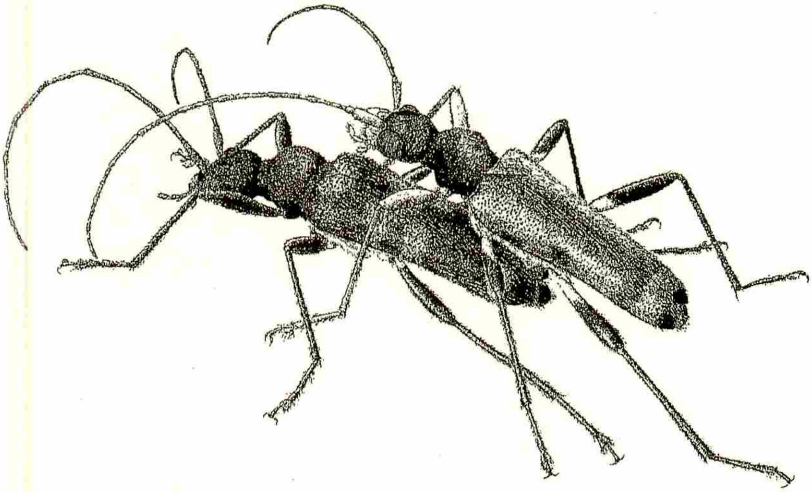

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A New Subgenus of the Genus *Pidonia* MULSANT (Coleoptera: Cerambycidae)

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Abstract A new subgenus, *Paleopidonia* is established in the genus *Pidonia* MULSANT, based on a species, *Pidonia fujisana* OBIKA et KUSAMA from Japan. Key to 7 subgenera is presented. The distributional ranges of 7 subgenera are clarified respectively.

Key words: Cerambycidae; *Pidonia*; new subgenus; distributional range; Japan.

The cerambycid genus *Pidonia* was established by MULSANT in 1863 based on a European *P. lurida* (FABRICIUS) which was only one known species occurring in central and southern Europe to Carpathian Ukraina.

This genus consists of about 150 species distributed in the temperate zone of the Holarctic Region.

Taxonomy of this genus is very difficult, owing to the geographic and/or individual variation in each species, so that the classification of the members of this genus has been much confused in some species-groups. Through the close examination of many species of *Pidonia* from the world, I found that they are separated into 7 natural groups by the characteristics of genitalia, antennae, pronotum, legs and elytra.

The characteristics seem to be stable for each group, therefore I establish a new subgenus for the groups under the name *Paleopidonia*. Key to 7 subgenera is presented. The distributional ranges of 7 subgenera are clarified respectively.

Paleopidonia KUBOKI, subgen. nov.

(Figs. 1–3, 5–7, 9–11, 13–15)

Type species: *Pidonia fujisana* OBIKA et KUSAMA, 1971.

Etymology: From the Greece, "Paleo-" (ancient) is combined with the generic name *Pidonia*.

Gender: Female.

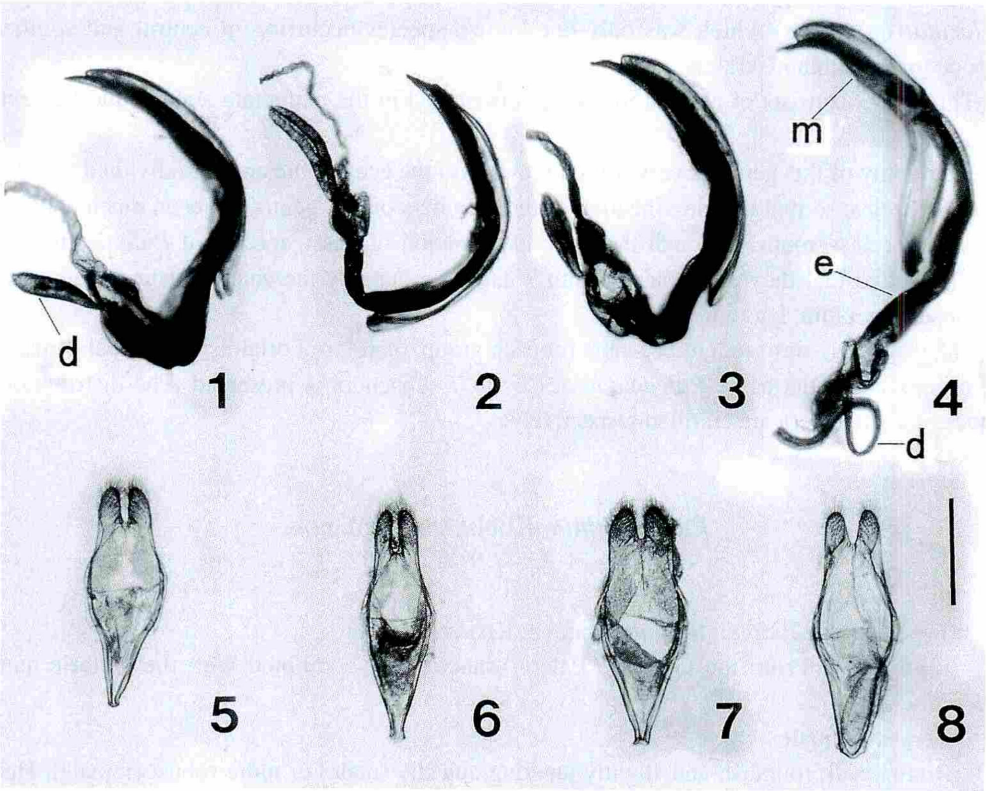
Body small, roundish and slightly tapering apically (male) or more robust (female). Head distinctly broader across the middle of eyes than basal breadth of prothorax; temples somewhat developed, gradually narrowed posteriorly in anterior half and gently constricted in posterior half; antennal tubercles fairly swollen; terminal segment of maxillary palpus triangular, gradually broadened towards apex and obliquely truncate at apex (male) or more large (female). Eyes relatively prominent and shallowly emarginate at middle of internal margins. Antennae relatively short; apical one segment not reaching elytral apices, sometimes barely reaching (male) or not reaching elytral apices (female).

Prothorax roundly expanded laterad just before the middle, deeply constricted both anteriad and posteriad; disc of pronotum roundly convex above. Elytra gradually narrowed posteriad (male) or parallel-sided (female) and almost conjointly rounded at apices. Femora strongly clavate; tibiae linear and straight.

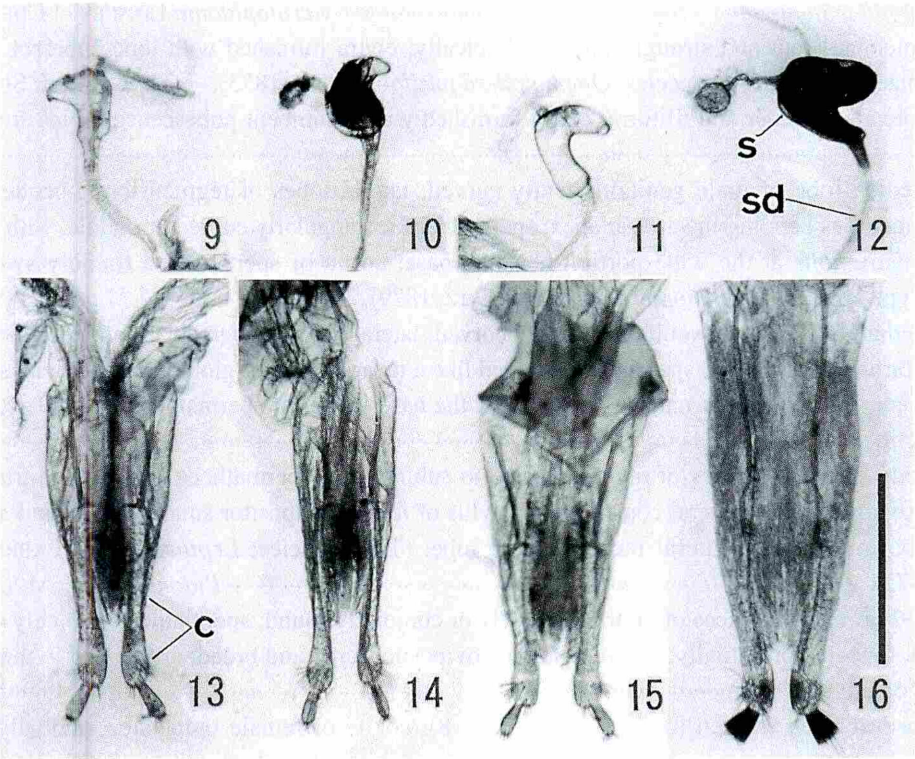
Apex of last sternite triangular, without lateral angle and triangularly emarginate at middle (male) or round (female).

Male genitalia: Median lobe falcate in lateral view, relatively slender and strongly curved; ventral plate of median lobe sharply pointed; endophallus long and furnished with a pair of falcate sclerites; diverticulum broadly lanceolate, relatively short and thick (Figs. 1–3); tegmen forming a ring with a dorsal cap; the cap formed of a pair of lateral lobes which are roundly produced and densely furnished with relatively short terminal hairs; base of tegmen forming struts consolidated together with sclerotized membrance (Figs. 5–7).

Female genitalia: Spermatheca lightly sclerotized, somewhat comma-shaped, widest at



Figs. 1–8. Male genitalia. 1–4, median lobe and endophallus. 5–8, tegmen. 1, 5, *Pidonia* (*Paleopidonia*) *oyamae*; 2, 6, *Pidonia* (*Paleopidonia*) *chujoi*; 3, 7, *Pidonia* (*Paleopidonia*) *fujisana*; 4, 8, *Pidonia* (*Cryptopidonia*) *lyra*; d, diverticulum; e, endophallus; m, median lobe. Scale: 0.5 mm.



Figs. 9–16. Female genitalia. 9–12, spermatheca. 13–16, ovipositor. 9, 13, *Pidonia* (*Paleopidonia*) *oyamae*; 10, 14, *Pidonia* (*Paleopidonia*) *chujoi*; 11, 15, *Pidonia* (*Paleopidonia*) *fujisana*; 12, 16, *Pidonia* (*Cryptopidonia*) *lyra*; c, coxite; s, spermatheca; sd, spermathecal duct. Scale: 0.5 mm.

middle and sharply narrowed towards apex; cornu strongly curved at apical part; ramus swollen roundly with short and thick spermathecal gland; collum weakly constricted at the narrow portion near the base; spermathecal duct very short and fairly thick, with fine stripes (Figs. 9–11); paraproct extremely short, with thick baculi; coxite somewhat narrowed towards apex and somewhat constricted behind apex (Figs. 13–15); coxite lobes long, broad and rounded; stylus united to the apex of coxite.

Key to the Subgenera of the Genus *Pidonia*

1. Third antennal segment shorter than 1st. ·· 2
— Third antennal segment longer than 1st. ·· 3
2. Pronotum feebly constricted at base and apex, distinctly longer than broad in the male, less so in the female, sides obtusely tuberculate. (Type-species: *Acmaeops lisa* Leng, 1890). ······ ·· *Thesalia* Casey
— Pronotum strongly constricted at base and apex, wider than long in both sexes, sides obtusely subangulate. (Type-species: *Pidonia quadrata* Swaine et Hopping, 1928). ························

·· *Ceratopidonia* LINSLEY et CHEMSAK

3. Antennae stout and strongly thickened apically; elytra furnished with long suberect hairs; tibiae arcuate. (Type-species: *Omphalodera puziloi* SOLSKY, 1873). ··· *Omphalodera* SOLSKY

— Antennae slender and filiform; elytra furnished with recumbent pubescence; tibiae straight. ·· 4

4. Median lobe of male genitalia gently curved; lateral lobes of tegmen long, slender and sometimes bending inwards at apex; spermatheca rectangularly curved at middle, with some constrictions at the wide portion near the base; cornu of spermatheca roundly swollen. (Type-species: *Grammoptera debilis* KRAATZ, 1879). ······························ *Mumon* HAYASHI

— Median lobe of male genitalia strongly curved; lateral lobes of tegmen short and rounded to subtruncate at apices; spermatheca shaped like a tabacco pipe or globular shape, with several constrictions at the narrow portion near the base; cornu of spermatheca triangularly projecting and sometimes curved inwards. ·· 5

5. Body elongate; apices of elytra truncate to subtruncate; spermatheca smooth and truncate proximally, with several constrictions; stylus of female ovipositor small, narrow and abaxially united to the lateral face of coxite lobe. (Type-species: *Leptura lurida* FABRICIUS, 1872). ·· *Pidonia*, s. str., MULSANT

— Body roundish; apices of elytra separately or conjointly round; spermatheca minutely striated, funneled proximally; stylus of female ovipositor large and broad, articulated to the apex of coxite lobe. ·· 6

6. Base of male tegmen forming a ring (Fig. 8); coxite of female ovipositor gradually narrowed towards apex; paraproct relatively long; coxite lobes short and small (Fig. 16); collum of spermatheca funneled proximally (Fig. 12); spermathecal duct somewhat thick, without stripes. (Type-species: *Pidonia lyra* KUBOKI et SUZUKI, 1978). ································ ·· *Cryptopidonia* KUBOKI

— Base of male tegmen forming struts consolidated together with sclerotized menbrance (Figs. 5–7); coxite of female ovipositor somewhat narrowed towards apex and somewhat constricted behind apex; paraproct relatively short; coxite lobes long and large (Figs. 13–15); spermatheca smooth and lightly sclerotized; collum of spermatheca weakly constricted at the narrow portion near the base (Figs. 9–11); spermatheca duct fairly thick, with fine stripes. (Type-species: *Pidonia fujisana* OBIKA et KUSAMA, 1971). ··································· ·· *Paleopidonia* subgenus nov.

Distribution of the Seven Subgenera of the Genus *Pidonia*

The distribution ranges of 7 subgenera are shown in Fig. 17. *Pidonia*, s. str., consisting of 107 species, occurs in both latitudinal ends of the Eurasian Continent and North America respectively. They especially concentrate in the eastern side of continents: 102 species in eastern Asia and 3 in eastern North America. On the other hand 1 species occurs in each western side of the Eurasian Continent and North America.

Cryptopidonia has 24 species and shows a very limited distribution in Japan, Taiwan and China: 12 species in Japan, 12 species in Taiwan and eastern China. *Mumon*, containing 12 species, shows a limited distribution in eastern Asia: 9 species in Taiwan, 2 in Japan and 1

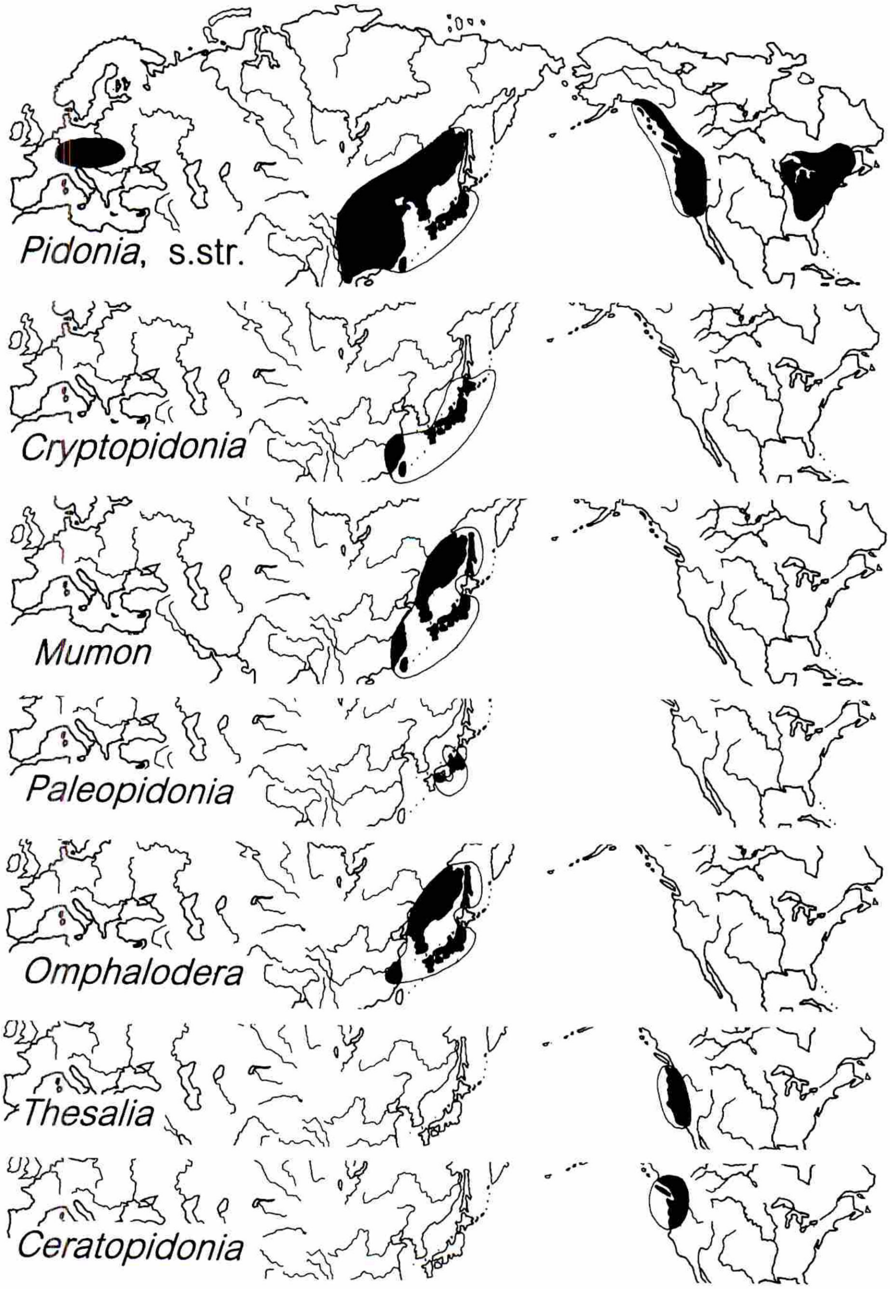


Fig. 17. Geographic ranges of 7 subgenera of *Pidonia*.

species in the Asian Continent. *Paleopidonia* has 3 species and shows a very limited distribution in Japan. *Omphalodera*, consisting of 4 species, shows a limited distribution in eastern Asia: 1 species in eastern China and 3 in Japan and one of them also in the Asian Continent. *Thesalia* and *Ceratopidonia*, containing only 1 species respectively, occur in the western side of North America.

A List of Species of the *Pidonia* (*Paleopidonia*)

1. *Pidonia* (*Paleopidonia*) *oyamae* (OYAMA) (Figs. 1, 5, 9 and 13)
   Grammoptera oyamae OYAMA, 1908, Ins. World, Gifu, 12 (135): 19.
   Distribution: Japan (central Honshu)
2. *Pidonia* (*Paleopidonia*) *chujoi* OHBAYASHI et HAYASHI (Figs. 2, 6, 10 and 14)
   Pidonia chujoi OHBAYASHI et HAYASHI, 1960, Ent. Rev. Japan, 11 (1): 13.
   Distribution: Japan (Shikoku)
3. *Pidonia* (*Paleopidonia*) *fujisana* OBIKA et KUSAMA (Figs. 3, 7, 11 and 15)
   Pidonia fujisana OBIKA et KUSAMA, 1971, Annot. Zool. Japon., 44 (4): 233.
   Distribution: Japan (southern part of central Honshu)

要　　約

窪木幹夫：カミキリムシ科 *Pidonia*属の新亜属について．――― *Pidonia*属の新亜属，*Paleopidonia*を記載した．本亜属は下記の特徴を持つ．雄交尾器の中央片の内陰茎に付着する盲管は大きく，太い．包片の基部は，棒状で癒着せず，膜質で連結する．雌産卵管の肛側片は，比較的短い．陰茎基節は細く，先端手前でやや細まる．受精嚢は基部近くでくびれる．受精嚢管は比較的太く，細かな横縞を持つ．*Pidonia*属の７亜属の検索表と分布図を示した．なお，*Paleopidonia*亜属は，*oyamae, chujoi, fujisana* の３種からなる日本特産亜属である．

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Ent. Rev. Japan, **58** (1): 7–8, April 30, 2003

Biological Notes on *Tribasodites picticornis*, with New Locality Records in the Ryukyus, Japan (Coleoptera: Staphylinidae: Pselaphinae)

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Hokkaido University, Sapporo 060–8589, Japan

Abstract *Tribasodites picticornis* (Coleoptera, Staphylinidae, Pselaphinae, Batrisini) was described as a myrmecophilous species, but this species may be a free-living species. This species is recorded from the islands of Amami-ôshima, Kume-jima and Ishigaki-jima of the Ryukyus for the first time.

Tribasodites picticornis NOMURA, 1986, belonging to the tribe Batrisini, was described from Okinawa-jima, the Ryukyus, Japan. NOMURA (1986) described this species as a myrmecophile because the type series was collected from a colony of ants under bark.

Recently, we have examined additional material of *T. picticornis* collected from several localities in the Ryukyus. In this paper, we discuss the possibility of myrmecophily in this species and give additional records and new localities.

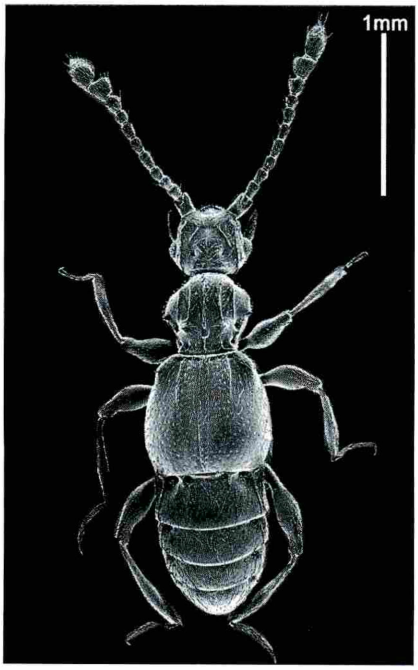
We thank Mr. Masaru HOJO (Graduate School of Arts and Sciences, The University of Tokyo) for material, and Drs. Shûhei NOMURA (Department of Zoology, the National Science Museum, Tokyo) and Sadao TAKAGI (Systematic Entomology, Graduate School of Agriculture, Hokkaido University) for reading the manuscript.

Tribasodites picticornis NOMURA, 1986

[Japanese name: Kazari-munetoge-arizukamushi]
(Fig. 1)

Tribasodites picticornis NOMURA, 1986: 498; 1988: 374; SASAKI *et al.*, 2002: 185.

Specimens examined. [Amami-ôshima]: 1♂, 2♀♀, Yuwan-dake, 26. X. 2000, M. MARUYAMA leg., from leaf litter, by hand sorting; 1♂, same locality but 26~27. III. 2002, H. SUGAYA leg., from leaf litter using Tullgren funnels; [Okinawa-jima]: 1♂, 2♀♀, Ie-rindo, 300 m alt., 11~15. IV. 2001, H. SUGAYA leg., from leaf litter using Tullgren funnels; 1♂, 2♀♀, same data but 20~22. III. 2002; [Kume-jima]: 1♂, Shirase-gawa, 4. III. 1998, M. MARUYAMA leg., from leaf litter accumulated along a river, by hand sorting; [Ishigaki-jima]: 1♂, Omoto-dake, 26. IV. 2001, H. HOJO leg., from a nest of *Coptotermes formosanus* SHIRAKI, 1905; [Iriomote-jima]: 1♂, Yutsun, 25. IV. 2001, M. HOJO leg., from a nest of *Odontotermes formosanus* (SHIRAKI, 1909); 2♀♀, Komi, 13~16. III. 2002, H. SUGAYA leg., under bark near a nest of *C. formosanus*; 1♂ same data but under bark near a nest of *Technomyrmex albipes* (F. SMITH, 1861); 3♂♂, 5♀♀, same data but under bark from a nest of *Reticulitermes speratus* (KOLBE, 1885). The localities are mapped in fig. 2.



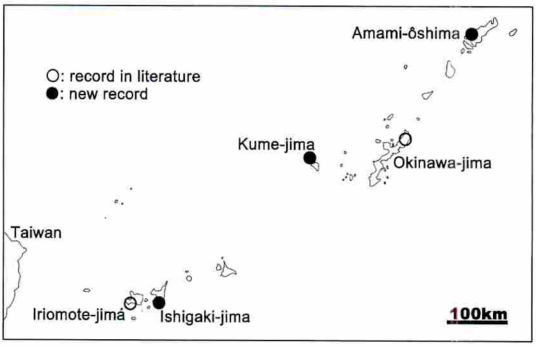


Fig. 2. Distributional map of *Tribasodites picticornis*.

Fig. 1. Habitus of *Tribasodites picticornis*, male.

Distribution. The Ryukyus, Japan: Amami-ôshima (new record), Okinawa-jima, Kume-jima (new record), Ishigaki-jima (new record), Iriomote-jima.

Biological notes. The specimens of the type series of *T. picticornis* were collected from a colony of ants, *Paratrechina flavipes* (F. SMITH, 1874), under bark. The specimens examined in this paper include material collected from nests not only of ants (*T. albipes*) but also of termites (*O. formosanus*, *C. formosanus*, *R. speratus*) or from leaf litter. We suspect that these associations with social insects are no more than accidental because inquiline insects tend to have host preference. Most *T. picticornis* beetles were collected under bark, where ants or termites are ubiquitous in warmer regions such as the Ryukyus. Moreover, several specimens were collected under dead leaves, where no social insect was observed. Thus, *T. picticornis* may be a free-living rather than myrmecophilous insect.

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SASAKI, T. *et al.*, 2002. Coleoptera, *In* S. Azuma ed., Check list of the insect of the Ryukyu Islands, 157–284, Yôju-shorin, Okinawa.

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A Host Record of the Myrmecophilous *Micrelytriger loebli* (Coleoptera: Staphylinidae: Pselaphinae), with Additional Locality Records in Taiwan

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Abstract *Paratrechina* sp. (Hymenoptera, Formicidae, Formicinae) is considered to be a possible host of *Micrelytriger loebli* (Coleoptera, Staphylinidae, Pselaphinae, Clavigeritae). This species is newly recorded from Meimu, Nantou Hsien, Taiwan.

Micrelytriger loebli NOMURA, 1997, belonging to the supertribe Clavigeritae, was described on the basis of two specimens collected from Taiwan, and has not been recorded thereafter. Members of the supertribe Clavigeritae are all believed to be obligate myrmecophiles owing to their highly modified morphologies, club-shaped antennae, presence of trichome, and so on (JEANNEL, 1950; KISTNER, 1982). *M. loebli* can also be considered as a myrmecophile from a viewpoint of morphology, but no information about the host ant has been reported.

Recently the senior author examined the specimens of this species deposited in the collection of the Muséum d'Histoire Naturelle, Genève (MHNG). They were mounted with some ant specimens of *Paratrechina* sp., and therefore were collected probably together with these ants.

Thereafter, the senior author paid attention to the presence of this ant species in the field, and thus collected *M. loebli* together with numerous ants representing all the castes of *Paratrechina* sp. This ant species is therefore considered to be the host of *M. loebli*. In the present paper, we give additional locality records of *M. loebli* with host records.

We wish to express our sincere gratitude to Claude BESUCHET, Giulio CUCCODORO, Ivan LÖBL (MHNG) for permitting the senior author to examine their collection. Drs. Shûhei NOMURA (Department of Zoology, the National Science Museum, Tokyo) and Sadao TAKAGI (Systematic Entomology, Graduate School of Agriculture, Hokkaido University) for their kind advice and reading the manuscript.

Micrelytriger loebli NOMURA, 1997

[Japanese name: Taiwan-kobane-higebuto-arizukamushi]
(Fig. 1)

Micrelytriger loebli NOMURA, 1997: 124.

Specimens examined. [Taiwan] 2 exs. Fenchifu, Chiai Hsien, with *Paratrechina* sp., 1400 m alt.,

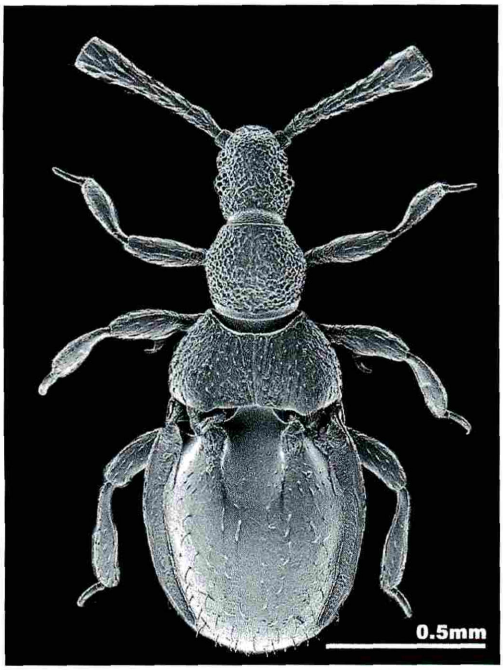

Fig. 1. Habitus of *Micrelytriger loebli*, male.

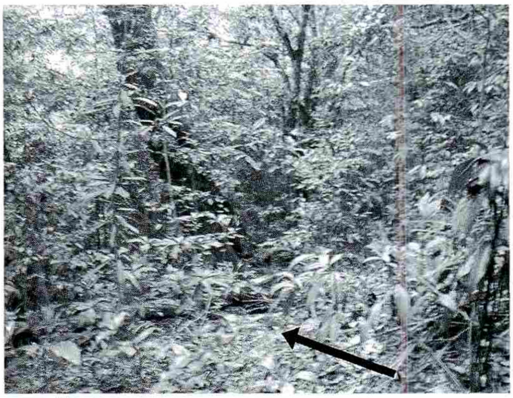

Fig. 2. Habitat of *Micrelytriger loebli*, Meimu, Taiwan, collection point (arrow).

IV–VI. 1977, J. and S. KLAPPERICH leg. (MHNG); 8♂♂, 5♀♀, Meimu, Nantou Hsien, 1600 m alt., 30. III. 2002, H. SUGAYA leg., with *Paratrechina* sp., (Fig. 2). (Preserved in the collection of the authors.)

Symbiotic host. Paratrechina sp.

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Additional Records of *Triartiger klapperichorum* from Taiwan, Collected by the Use of Flight Interception Traps (Coleoptera: Staphylinidae: Pselaphinae)

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Systematic Entomology, Graduate School of Agriculture,
Hokkaido University, Sapporo 060–8589, Japan

Abstract Additional records of *Triartiger klapperichorum* (Coleoptera, Staphylinidae, Pselaphinae, Clavigeritae) are given. All the specimens were collected by flight interception traps at Tengchih, Kaohsiung Hsien, and Meimu, Nantou Hsien of Taiwan.

Triartiger klapperichorum was described on the basis of a specimen collected from Fenchifu, Chiai Hsien, Taiwan (NOMURA, 1997), and no additional record has been made since the original description.

In the present paper, we are going to record it from two other points in Taiwan, with a note on the collecting method adopted.

Before going further, we thank Drs. Shûhei NOMURA (Department of Zoology, the National Science Museum, Tokyo) and Sadao TAKAGI (Systematic Entomology, Graduate School of Agriculture, Hokkaido University) for reading the manuscript, and Mr. Shigehisa HORI (the Historical Museum of Hokkaido), for advice on the flight interception trap.

Triartiger klapperichorum NOMURA, 1997

[Japanese name: Ko-mifushi-higebuto-arizukamushi]
(Fig. 1)

Triartiger klapperichorum NOMURA, 1997: 439.

Specimens examined. [Taiwan] 1♂, 4♀♀, Tengchih, 1400 m alt., Kaohsiung Hsien, 1~4. IV. 2002, H. SUGAYA leg., by flight interception traps; 2♀♀, Meimu, 1600 m alt., Nantou Hsien, 5~10. IV. 2002, H. SUGAYA leg., by flight interception traps. (All the speciemens are preserved in the authors' collections.)

Biological note. All the specimens were collected by the senior author by the use of flight interception traps (Fig. 2). In spite of his sifting leaf litter over wide areas in the collecting localities, no specimens of this species were obtained by this method.

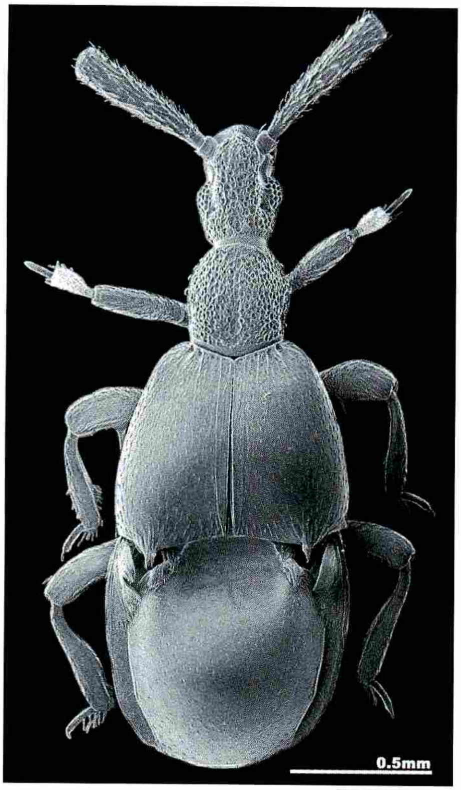

Fig. 1. Habitus of *Triartiger klapperichorum*, male.

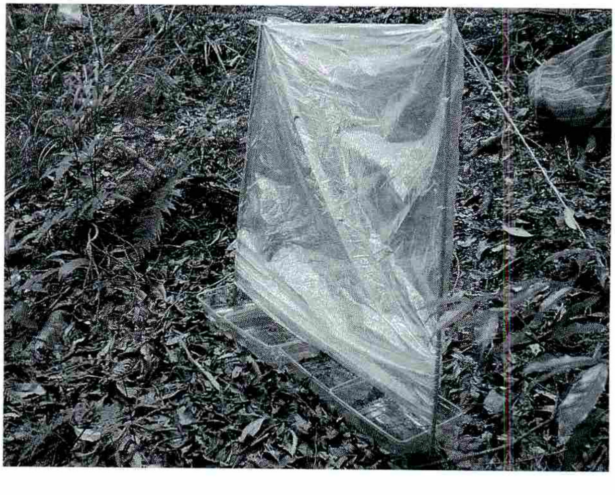

Fig. 2. Flight interception trap.

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Ent. Rev. Japan, **58** (1): 13–14, April 30, 2003

Record of *Chaetodera laetescripta* (Coleoptera: Cicindelidae) from the East Coast in the North Basin of the Lake Biwa in Shiga Prefecture, Central Japan

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Population of *Chaetodera laetescripta* (MOTSCHULSKY, 1860) is decreasing in its every habitat in Japan and is listed on a category of the vulnerable species in the Red List (2000) by the Ministry of the Environment. ASHIDA (1998) proposed to divide this species into two populations; 1) the nominotypical subspecies having the ratio of elytral blackish area less than fifty percent, is distributed in Kyushu (northern coastal area), Honshu (coastal area of the Japan Sea, west of Ishikawa Pref.), 2) ssp. *circumpictula* having the ratio of elytral blackish area more than fifty percent, is distributed in Honshu (coastal area of the Japan Sea, east of Niigata Pref., coastal area of the Pacific Ocean), Hokkaido (southwestern area).

In Shiga Pref. and the vicinity, the nominotypical subspecies was recorded from the Kiso River (Aichi Pref.) and the Yodo River drainage area (Osaka Pref. and Kyoto Pref.), but the recent record in the Yodo River drainage has not been recognized (ASHIDA, 1998; ASHIDA, 2002; SHIYAKE, 1997; OHONO, 2000). Unexpectedly, I found a relict habitat of this species from the east coast in the north basin of the Lake Biwa, Shiga Pref. Here I will report it as the first record from Shiga Pref.

Chaetodera laetescripta (MOTSCHULSKY)

Specimens examined. 6♂♂, 5♀♀, the east coast in the north basin of the Lake Biwa, Shiga Pref., Central Japan, 14. IX. 2002, M. YAMAMOTO leg. A part of the specimens are preserved in the Lake Biwa Museum.

Notes. According to the treatment of ASHIDA (1998), the population from the Lake Biwa belongs to the subspecies *circumpictula*, because it has more than fifty percent of elytral blackish area, properly sixty-seven percent in male and seventy-one percent in female, both on an average. Since *C. l. circumpictula* has so far been recorded mainly from the eastern Japan, the record from Shiga Pref. seems to be unexpected.

In remote antiquity, *Chaetodera laetescripta* might be distributed widely in the coastal area of the Osaka Bay and the drainage area of the Yodo River including the Lake Biwa. Although there is no reliable record from the lake, it is highly possible that this population in the northern part of the lake is a relict. However, it has much higher ratio of elytral blackish area than the specimens from the Yodo River, which have about fifty percent (ASHIDA, 2002). There is a possibility that this population immigrated from the upper reaches of inflow rivers into the

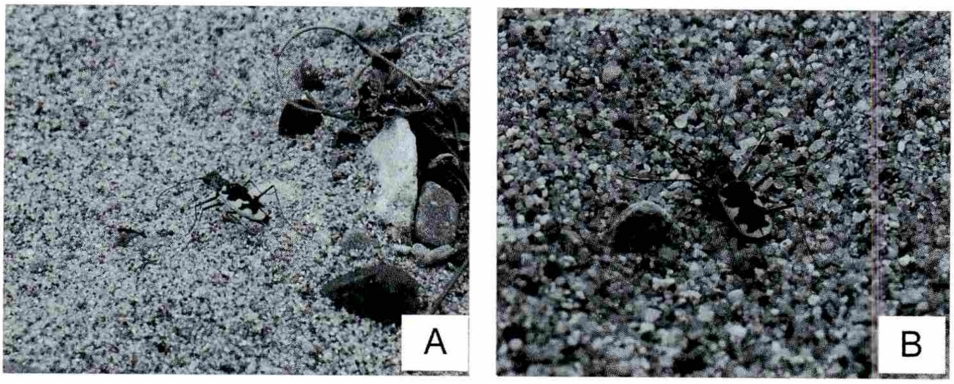

Fig. 1. *Chaetodera laetescripta* on the sandy soil, in the east coast of the north basin of Lake Biwa, Shiga Pref. A, a standing posture; B, a prone posture. Photos by the author.

Lake Biwa, and also there is very little possibility of artificial transportation from somewhere with tree planting and so on.

In this observation, the species was found on the sandy shore about ten or twenty meters apart from the waterfront. Although this sandy shore is about two kilometers in length in a bow shape, this species was found only in the restricted sandy area about one hundred meters in length, and not found in other area growing tall plants such as *Oenothera* thickly or sparsely.

This species instantly flies away for about five meters when disturbed, and rests its body on the sandy soil (Fig.1-B) when the surface temperature of soil is low as in the cloudy days.

As the present relic habitat is not only important because of its wide separation from the known range of distribution and restricted in area but also the species is threatened with the high risk of extinction in Japan, the area including the habitat should be protected by the continuous maintenance of the nature and exclusion of human impact under pressure for development.

I wish to thank Dr. Hisashi ASHIDA and Dr. Katsuro YAHIRO for their kindness in giving me the opportunity to write this brief report and for invaluable advice.

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Two New *Stenus* Species (Coleoptera: Staphylinidae) from Japan (280th Contribution to the Knowledge of Steninae)

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Abstract Two new species of the genus *Stenus* are described from Japan: *Stenus* (*Hypostenus*) *alter* sp. nov. (Southern Kyushu) and *S.* (*H.*) *hayashii* sp. nov. (Honshu: Nara Prefecture), additional remarks on two other species from the Nara Prefecture are given.

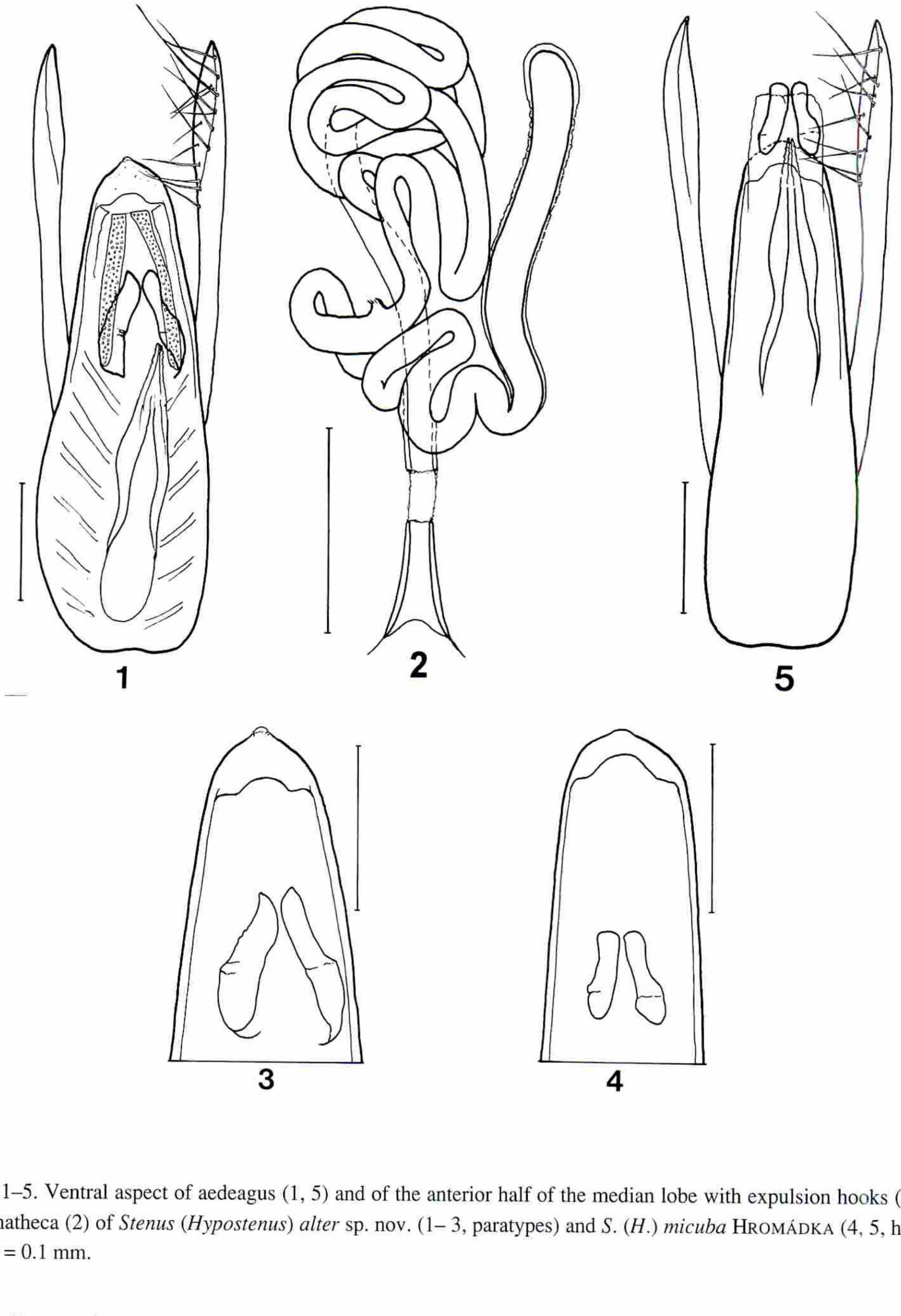
Through the kindness of Dr. Noburo ITO I got a number of *Stenus* collected mainly at Mount Wasamatayama and at Dorogawa, Nara Prefecture, where the annual meetings of the Japanese Coleopterological Society take place. Beside of already known taxa one new species was found amongst them, which is described below. For two other species, which also live at the mentioned localities and which are difficult to identify, I give new, detailed figures of their genitalia. Also I take the opportunity to add a second new *Stenus*-taxon to the Japanese fauna, a taxon which formerly has been confounded with a Chinese species.

Stenus (*Hypostenus*) *alter* sp. nov.

(Figs. 1–3)

Stenus micuba HROMÁDKA, 1982, Fragm. Coleopt. 33/34: 134 figs. partim; NAOMI, 1990, Elytra, Tokyo, 18: 48 fig.

Stenus micuba was described both from China and Japan. Since this species is brachypterous and belongs to a group of numerous very close, mostly endemic species it seemed highly improbable that the Chinese specimens (described from "Chinkiang" = SW Hubei) would be conspecific with those from Southern Kyushu. Through the kindness of my collegue L. HROMÁDKA, Prague, I got the holotype of *S. micuba* for revision. Comparison with one paratype from Mount Unzen and specimens from Mt. Iwaya proved that the Japanese specimens belong to a species *propria* which is described below: Brachypterous, blackish, elytra and abdomen with some brownish tint, moderately shining, head moderately coarsely and moderately sparsely punctate, pronotum and elytra coarsely and very densely punctate, abdominal punctation moderately coarse and dense anteriorly, fine and moderately dense posteriorly, pubescence short, recumbent. Base of antennae yellowish, club infuscate, maxillary palpi yellowish, legs reddish-yellow. Labrum brown, clypeus and labrum sparsely pubescent.
Length: 2.3–3.0 mm (fore parts: 1.4–1.5 mm).



Figs. 1–5. Ventral aspect of aedeagus (1, 5) and of the anterior half of the median lobe with expulsion hooks (3, 4) and spermatheca (2) of *Stenus* (*Hypostenus*) *alter* sp. nov. (1– 3, paratypes) and *S.* (*H.*) *micuba* HROMÁDKA (4, 5, holotype). Scale = 0.1 mm.

Proportional measurements of the holotype (measurements of the holotype of *S. micuba* in brackets): Width of head: 30 (30.8); average distance between eyes: 14 (15); width of pronotum: 22.5 (23); length of pronotum: 22 (22); greatest width of elytra: 25.8 (26.5); greatest length of elytra: 22 (23); sutural length: 17 (17).

Male. Sternite 8 with a very shallow apical emargination (length of sternite: depth of emargination = 52 : 1). Sternite 9 with a long tooth apicolaterally. Tergite 10 rounded.

Aedeagus (Figs. 1, 2), expulsion hooks long, strongly sclerotized.

Female. Sternite 8 slightly triangularly prolonged apically. Valvifer with a long tooth apically. Tergite 10 rounded. Spermatheca (Fig. 2).

Holotype: ♂, Shimabara, Unzen 2200 m, 2. IX. 1934, Suenson (paratype of *S. micuba*; coll. PUTHZ in the Muséum d'histoire naturelle, Genève); paratypes: 2♂♂: Nagasaki Prefecture, Mt. Iwaya, 29. V. 1987, S. NOMURA (coll. PUTHZ), 1♀: Nagasaki Pref., Todorokidani, 11. II. 1985, S. NOMURA (coll. PUTHZ). Other specimens from Southern Kyushu which have been recorded by NAOMI also should be regarded as paratypes.

Stenus alter sp. n. is distinguished from *S. micuba* HROMÁDKA by the aedeagus (compare Figs. 4, 5): the stronger sclerotized apical portion of the median lobe is about twice as large, the expulsion hooks are nearly twice as long as in *S. micuba*. The number of parameral setae seems to be higher in the new species (but range of variability still unknown). Since no females from China have been recorded so far a probable difference in the shape of the spermatheca can not be described.

***Stenus* (*Hypostenus*) *hayashii* sp. nov.**

(Fig. 6)

This new species resembles *S. tengu* HROMÁDKA.

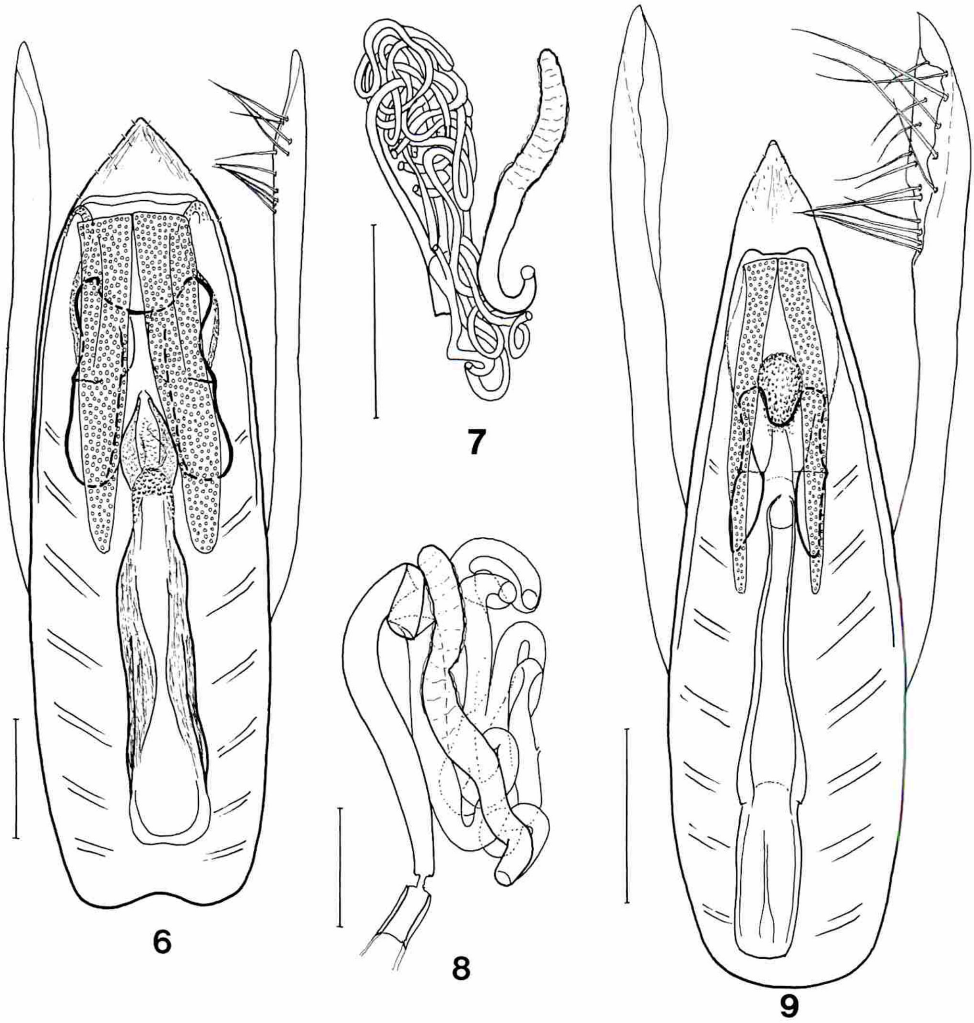
Brachypterous, slightly shining, head and abdomen blackish, pronotum and elytra dark brown, head moderately finely, sparsely punctate, pronotum and elytra coarsely, very densely, slightly rugosely sculptured, punctation of abdomen moderately coarse anteriorly, fine posteriorly, moderately dense; pubescence short, recumbent. Antennae reddish yellow, club brown, maxillary palpi reddish yellow, legs reddish yellow, apical portion of femora and of tarsal segments infuscate. Labrum reddish brown, clypeus and labrum sparsely pubescent. Paraglossae oval.

Length: 3.5–4.2 mm (fore parts: 1.9 mm).

Proportional measurements of the holotype: width of head: 37; average distance between eyes: 19; width of pronotum: 28; length of pronotum: 28; greatest width of elytra: 32; greatest length of elytra: 30; sutural length: 21.

Head much broader than elytra, frons moderately broad with two distinct lateral furrows, median portion distinctly broader than each of the lateral portions, strongly (roundly) elevated but only slightly extending beyond the lever of medial eye margins. Punctation moderately fine, sparse, diameter of punctures about as large as basal cross section of third antennal segment, interstices mostly larger than diameter of punctures, median portion nearly impunctate anteriorly; the whole frons very densely and deeply reticulate. Antennae short, when reflexed extending toward the posterior third of the pronotum, penultimate segments about 1.5× as long as broad.

Pronotum as long as broad, broadest in about middle, sides strongly convex anteriorly, strongly constricted posteriorly, surface uneven: a distinct impression on longitudinal middle (the impression is impunctate but strongly reticulate), less distinct impressions laterally. Punctation coarse, irregular and very dense, extremely dense (rugose) anteriorly, diameter of punctures slightly larger than largest cross section of third antennal segment, interstices much smaller than half diameter of punctures (exception: see above).



Figs. 6–9. Ventral aspect of aedeagus (6, 9) and spermatheca (7, 8) of *Stenus* (*Hypostenus*) *hayashii* sp. nov. (6, holotype), *S.* (*H.*) *himiko* NAOMI (7, Mt. Wasamatayama) and *S.* (*H.*) *jukata* HROMÁDKA (8, 9, Mt. Wasamatayama). Scale = 0.1 mm.

Elytra subtrapezoidal, much narrower than head, slightly broader than long, shoulders oblique, sides convexly widened behind, posterior margin very deeply emarginated; a longitudinal impression near suture, one shallow lateral impression anteriorly, one deeper impression on posteriolateral quarter. Punctation as dense and as irregular (slightly rugose) as on pronotum but somewhat shallower and slightly coarser.

Abdomen cylindrical, third segment completely margined, basal constriction of first segments deep, tergite 7 with a narrow membranous fringe apically. Punctation throughout moderately dense, interstices mostly as large or somewhat larger than punctures, punctures on tergite 3 about as large as those on head, punctures of tergite 7 smaller than one medial eye facet, tergite

10 finely and very sparsely punctate.

Legs strong, metatarsi about as long as two-thirds of the metatibiae, its first segment slightly shorter than the following three combined, much longer than the last segment; segment 4 deeply bilobed.

The whole insect is densely reticulate, the reticulation of the abdomen shallower than that of the fore parts.

Male. Sternite 7 finer and denser punctate posteriomedially. Sternite 8 with a shallow apical notch (length of sternite: depth of notch = 68 : 3). Sternite 9 with a long and acute tooth apicolaterally. Tergite 10 rounded. Aedeagus (Fig. 6), median lobe triangularly narrowed, internal expulsion hooks strongly sclerotized, very large, connected medially, parameres distinctly longer than the median lobe with 10 subapical setae.

Female. Unknown.

Holotype: ♂, Nara Prefecture: Dorogawa, 15. VII. 2000, Y. HAYASHI (coll. PUTHZ in the Muséum d'histoire naturelle, Genève).

This new species is the sister species of *S. incommodus* PUTHZ, from which it is distinguished by the broader head, deeply reticulated fore parts and the aedeagus (in *S. incommodus* the expulsion hooks are separate and differently shaped, the parameral setae differently inserted, see Fig. 1, PUTHZ, 1993). It resembles habitually *S. tengu* HROMÁDKA but has a more sparsely punctate frons, a finer and less dense punctate abdomen and different sexual characters. From most other superficially resembling species it can be distinguished by the sparse punctation and deep reticulation of the frons. The aedeagus resembles that of *S. ambiguellus* NAOMI, but this species has separate expulsion hooks, much more parameral setae and a differently shaped expulsion tube.

Etymology: With pleasure I dedicate this new species to its collector, Mr. Yasuhiko HAYASHI, Kawanishi City.

Note on two other *Stenus* from Mount Wasamatayama and from Doragawa

Two (*Hypostenus*)–species, which are living at Mount Wasamatayama and Doragawa, resemble closely many other Japanese taxa. The genitalia of these species have been incompletely or insufficiently known. Therefore I give a new figure of the aedeagus of *Stenus jukata* HROMÁDKA (belonging to the *rufescens*-group, Fig. 9) and figures of the spermathecae of both *S. jukata* (Fig. 8) and *S. himiko* NAOMI (of the *cephalotes*-group, Fig. 7). It should be noted that the spermathecae of these species are very different in size although both species are of about the same length.

Acknowledgement

I would like to thank Mr. Lubomir HROMÁDKA, Dr. Noburo ITO and Dr. Shun-Ichiro NAOMI for providing material from their collections.

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Notes on the Genus *Hesperoschema* (Coleoptera: Staphylinidae)

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Abstract Characteristics of the genus *Hesperoschema* are supplementally described, its phylogenetic relationship are discussed, and the genus is newly transferred from the tribe Xanthopygini to the subtribe Anisolinina of the Philonthini near the genus *Amichrotus*.

The genus *Hesperoschema* SCHEERPELTZ is composed of only one species, *H. malaisei* SCHEERPELTZ from Myanmar and placed in Xanthopygina (SCHEERPELTZ, 1964; HERMAN, 2001). Recently I had an opportunity to examine the allotype of *Hesperoschema malaisei* SCHEERPELTZ through the courtesy of Dr. H. SCHILLHAMMER of Naturhistorisches Museum, Wien. In this paper I am going to give some supplementary descriptions of the genus through the observation of the allotype and to discuss the taxonomical position after close examination. Though the type specimen examined is the female, it provides the features of the genus enough.

Hesperoschema malaisei is a remarkable for the very coarse punctures in the fore body, well similar in general appearance to a large robust *Hesperus* species. In *Hesperoschema* the chaetotaxy of macrosetae on the head, pronotum and elytra is basically the same as those in the genus *Anisolinus* or other anisolinine genera; limbic conformation of the pronotum is also similar to the other anisolinine genera, viz. superior lateral line of pronotum is widely separated from inferior lateral one, not confused with the latter in full length and the former only shifts to anterior margin; the empodial setae are present; structures of palpi and mesosternum are well similar to those of the genus *Amichrotus* SHARP. As these characters are shared with the subtribe Anisolinina, *Hesperoschema* should be transferred from Xanthopygina to this subtribe.

Main terminology used herein is the same as those explained in HAYASHI, 1993.

I am very grateful to Dr. Harald SCHILLHAMMER for his kind help in borrowing the type specimen of *H. malaisei*, and to Dr. Katsura MORIMOTO, the Emeritus Professor of Kyushu University, Fukuoka, for his kindness of critically reading the manuscript of this paper.

Hesperoschema malaisei SCHEERPELTZ

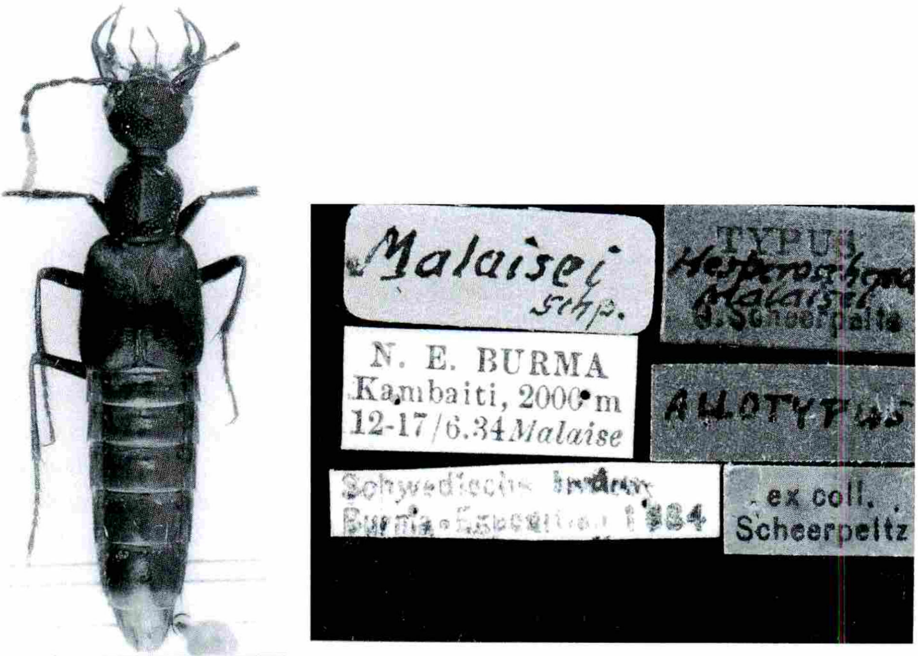
(Figs. 1–6)

Hesperoschema malaisei SCHEERPELTZ, 1965. Ark. Zool., 17: 263. — HERMAN, 2001, Bull. Amer. Mus. Nat. Hist. 265: 3577.

Specimen examined: 1♀ (allotype), Kambaiti, 2000 m, N.E. Burma, 12–17. VI. 1934, MALAISE leg. (in Coll. Naturhistorisches Museum, Wien.)

Distribution. Myanmar.

Redescription: Facies (Fig. 1) well similar to a large *Hesperus* species. Body moderate in



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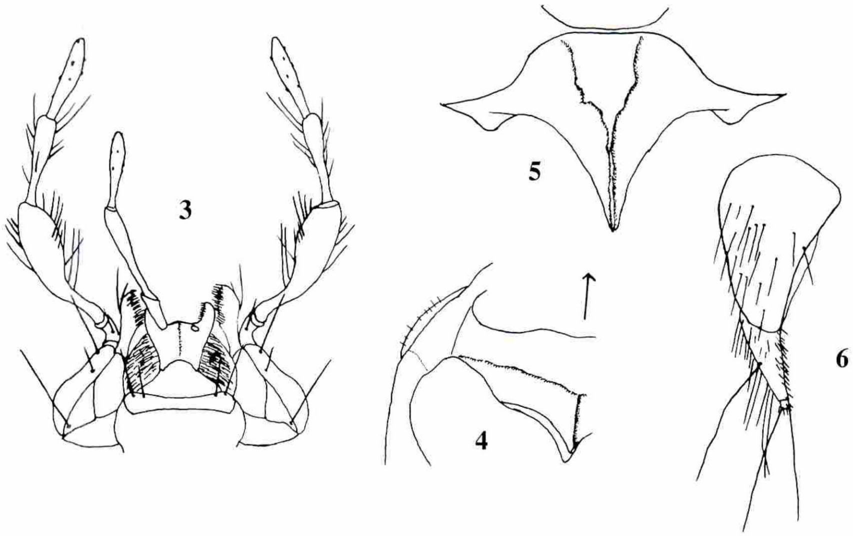
Figs. 1–2. 1, *Hesperoshcema malaisei* SCHEERPELTZ, habitus; 2, the labels attached to the allotype.

size, thick, robust, elongate-subfusiform, strongly shiny, very coarsely and strongly punctured on fore body; fore body deep blue, with head and pronotum vioraceously tinged; mouth organs reddish pitchy; antennae dark brown, with apical 4 segments yellowish white and each base of 4th to 7th segments reddish; legs dark brown, with tarsi brownish; abdomen reddish brown, with 7th segment widely black except sides and apical third which is pale yellow as same as 8th.

Head transversely suboval, widely rounded posteriorly, narrowly sulcate along front margin, very coarsely, deeply and rather densely punctured. Labrum short, bilobate, widely and deeply emarginate in the middle. Mandibles slender, much longer than head, each with a wide and short tooth at basal third, and the right tooth denticulate at tip. Eyes relatively small, strongly convex and shorter than postgenae. Antennae filiform, long, with basal 3 segments polished. Chaetotaxy of macrosetae typical as that in Anisolinina; occipital macrosetae placed before the level of postgenal ones.

Maxillary palpi (Fig. 3) very long, extending slightly beyond mandibles; 1st segment slender, the shortest, longer than wide, weakly curved, a little thickened apicad, with a rather long fine seta near apex; 2nd very long, strongly curved, nearly 1.5 times as long as 3rd, slender in basal third but abruptly and strongly thickened in apical two-thirds, sparsely pubescent with several setae of various length; 3rd straight, gradually thickened apicad, with 10 or more long setae; 4th elongate-subfusiform, somewhat flattened, slightly shorter than 3rd (8 : 9), glabrous but with several short carina and several minute punctures. Labial palpi (Fig. 3) slender and



Figs. 3–6. *Hesperosoma malaisei* SCHEERPELTZ: 3, maxilla and labium; 4, prosternum, in oblique view in ventral side; 5, mesosternum; 6, female gonocoxcite.

very long, about two-thirds as long as maxillary palpi; 1st segment the shortest, straight, about a third as long as 2nd, with a rather long fine seta near base; 2nd almost straight, slightly thickened at the middle and again at apex, with a few short fine setae near base and with a short and a long setae at about basal third; 3rd elongate-subfusiform, 0.85 times as long as 2nd, flattened and glabrous, with sparse fine carina and several minute punctures. Ligula short, wide, with a small notch at apex. Paraglossae rather short, not reaching at apex of 1st segment of labial palpi.

Pronotum subcordate, distinctly longer than wide, strongly convex, feebly sinuate at sides, widest at about anterior third, gently narrowed posteriad from the widest point and widely rounded at all angles; disc very coarsely, deeply and not densely punctured as on head except for wide median space; superior lateral line almost all visible in dorsal view except each apex at anterior angle, widely separated from inferior lateral line throughout and the former only continued to anterior margin; chaetotaxy of macrosetae same as in other anisolinine genera.

Prosternum (Fig. 4) rather short, fairly convex medially, with a sharp median carina; furcasternum short and carinate medially.

Scutellum triangular, flattened, finely and sparsely punctured with reticulate microsculpture.

Elytra subquadrate, moderately convex, coarsely, shallowly and rather sparsely punctured, the punctures much smaller and shallower than those on pronotum; lateral margins not edged, rather rounded; sutural space rather wide, poorly defined, considerably convex and obsoletely punctured.

Mesosternum (Fig. 5) long and narrow, acute at apex of mesosternal process, with a distinct median elevation in full length, the elevation widened in basal half as in U- or V-shape and sharply carinate in posterior half.

Abdomen gradually narrowed posteriad, with basal 3 visible tergites depressed in the middle of each base; 3rd sternite with a short carina at base; 10th tergite small, subtriangular, truncate at apex and a little shorter than gonocoxcite (Fig. 6), which is very short and curved inward, and pleurites very short, slender, only a little longer than gonocoxcite.

Legs long and slender; pro- and metatibiae not spinose, mesotibiae each with a few short setae; protarsi in female narrow; 1st segment of metatarsomeres as long as 5th. Empodial setae paired, short and fine.

Male unknown to me.

Genus ***Hesperoschema*** SCHEERPELTZ

(Figs. 1–6)

Hesperoschema SCHEERPELTZ, 1965, Ark. Zool., 17: 251 (Type species: *Hesperoschema malaisei* SCHEERPELTZ); — HERMAN, 2001, Bull. Amer. Mus. Nat. Hist., 265: 3577.

Discussion: The present genus is easily recognized by markedly coarsely punctured and shiny fore body. It was described by SCHEERPELTZ, 1965 as a member of Xanthopygini, thereafter HERMAN, 2001 followed his treatment. Limbic conformation of pronotum of the present genus, however, distinctly indicates the features of Anisolinina. Therefore it should be placed in the subtribe Anisolinina. Structures of the maxillary palpi, especially in the 2nd segment, and the mesosternum of the present genus is similar to that of the genus *Amichrotus* SHARP, therefore the present genus is closely allied to the latter but the former is less advanced than the latter because of less modified abdominal tergites and mesosternum.

要　　約

林　靖彦：*Hesperoschema* 属について．— *Hesperoschema* 属はその顕著な外観によって，近縁の他属から容易に区別できるが，原記載以降一度も再検討されておらず，したがってその位置づけについても発表当時のままであった．筆者は最近，ウィーンの自然史博物館の SCHILLHAMMER 博士のご厚意によりそのタイプの一部を借用でき，詳しく調べることが出来た．その結果，当初 Xanthopygina 族に所属されていたが，Anisolinina 亜族（Philonthini）に移すことが妥当と見なされた．また，Anisolinina 亜族においては *Amichrotus* 属（ズマルハネカクシ）に近縁と考えられる．検視標本は雌個体であったので，十分な内容とは言えないが，本属の特徴について補足的な記載を行い，その系統的な位置づけについて考察した．

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Descriptions of Two New Species of the Genus *Euconnus* (Coleoptera: Scydmaenidae) from Japan

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Abstract Two new species of the genus *Euconnus* are described, under the names, *E.* (*Pycnophus*) *tsugaruensis* sp. nov. and *E.* (*P.*) *otorii* sp. nov. from Honshu, Japan. They can be easily distinguished from the other Japanese species of *Euconnus* by having the head and elytra almost glabrous.

The genus *Euconnus* is the major group of the family Scydmaenidae and includes about 2,500 species world wide. SHARP (1874) made a pioneer taxonomic work of the Japanese Scydmaenidae, and described *Scydmaenus japonicus* and *S. fustiger* which were transferred to *Euconnus* by SHARP (1886). Later, SHARP (1886), REITTER (1891), and FRANZ (1976) recorded, 5, 1, and 1 new species, respectively. As a result, 9 species have been hitherto known to occur in Japan.

Recently, the second author collected some specimens of *Euconnus*, whose head and elytra are almost glabrous, from Kantô District, Honshu. Moreover, the first author had an opportunity to examine 3 specimens which have similar dorsum and were collected from northern Honshu. After our careful examinations, we concluded that they belong to two new species of the subgenus *Pycnophus* of the genus *Euconnus*. Therefore, we will describe them as two new species, under the names, *E.* (*Pycnophus*) *tsugaruensis* sp. nov. and *E.* (*P.*) *otorii* sp. nov. in this paper.

The holotypes designed in this study are deposited in the collections of the Museum of Nature and Human Activities, Hyôgo (MNHA). Most paratypes are preserved in the collection of the first author and one paratype in the Laboratory of Insect Resources, Tokyo University of Agriculture.

Before going further, we wish to express our sincere gratitude to Dr. Paweł JAŁOSZYŃSKI (Ibaraki Pref.) for his continuous help. We also owe thanks to Dr. Toshihiro OZAKI (Akita Pref.) and Mr. Koji TOYODA (Saitama Pref.) who lend us the valuable specimens.

Euconnus (*Pycnophus*) *tsugaruensis* HOSHINA et ARAI, sp. nov.

[Japanese name: Tsugaru-tsuya-hime-kokemushi]
(Figs. 2–4, 8–10)

Male and female. Coloration. Dorsum of body shining, almost concolorous and dark reddish brown; antennae reddish brown; meso- and metasterna, venter, coxae, and trochanters dark-reddish brown; femora reddish brown; tibiae a little lighter than femora; tarsi light brown.

Measurement of holotype: Body 1.7 mm in length; head 0.30 mm in length and 0.32 mm in width; pronotum 0.47 mm in length and 0.42 mm in width at a maximal point; elytra 0.86 mm in length and 0.78 mm in width at a maximal point.

Head almost round and sharply narrowed towards the base from eyes at lateral margins (Fig. 2), almost glabrous, but sparsely and finely pubescent along the front margin and on the occiput, impunctate and almost smooth on dorsum; vertex weakly and simply raised; eyes oval, and about 0.42 times as long as the length of head; frons almost flat; distance between antennal insertions about 0.30 times as wide as the width of head; clypeus transverse; the width of occiput at the minimal point about half as wide as the maximal width of head; antennae 0.95–0.97 mm in length; antennal club composed of terminal 4 segments, and slightly shorter than the combined length of 1st–7th segments; 1st–2nd, 7th, and 11th segments longer than wide, 3rd–6th segments almost as long as wide, 8th–10th segments a little wider than long; relative lengths of antennal segments from 1st to 11th segments as follows: 13.3 : 11.4 : 7.21 : 6.52 : 6.27 : 6.46 : 9.00 : 10.5 : 10.5 : 10.8 : 18.4 (Fig. 3); 11th segment ovate.

Pronotum hemispherical and convex on dorsum, impunctate and almost smooth, widest at about half of lateral margins, with dense, stiff, and thick setae; anterior margins almost straight in dorsal view; lateral margins feebly and simply curved from the base to the middle, and straightly narrowed thence to the anterior margins in dorsal view; posterior margins feebly produced posteriorly in the middle to scutellum in dorsal view; basal 2 foveae shallow and distant from the lateral margins in position (Fig. 4); basal transverse groove absent.

Scutellum weakly microreticulate, without punctures and pits.

Elytra widest at about at the middle, impunctate and smooth on dorsum, almost glabrous except for 8–13 fine pubescence; humeri distinct; each elytron with 1 basal impression deep or shallow (varying among specimens) and 2 basal foveae small and distinct, located more closely to scutellum than lateral margins; sutural groove present on basal two-fifths of elytra along scutellum and suture (Fig. 4).

Hind wings normal.

Legs not showing sexual dimorphism; hind coxae distant from each other by one-third of length of hind coxa; front tibiae almost as long as middle tibiae; hind tibiae about 1.2 times as long as front tibiae; all tibiae stick-shaped, strongly narrowed from about basal one-third or one-fourth towards the base.

Metasternum microreticulate, with a high median carina; mesosternum smooth and convex.

Male. Aedeagus oval (Figs. 8–10), 0.26 mm in length, 0.19 mm in width; median lobe protuberant triangularly near the apex and narrowly rounded at apex in ventral and dorsal views, sharply curved in the middle and pointed apically in lateral view; parameres slender and almost

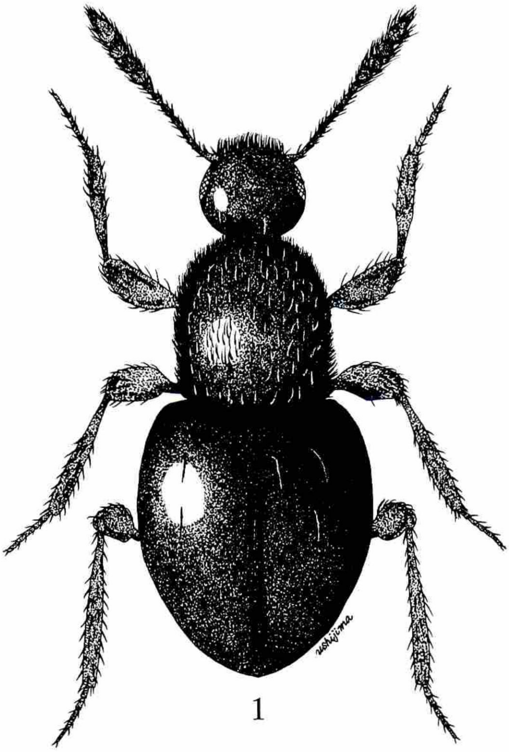

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Fig.1. Habitus of *Euconnus* (*Pycnophus*) *otorii* HOSHINA et ARAI, sp. nov.

straight in ventral view and curved in an arc in lateral view; horny process triangular and curved inward at posterior margins in dorsal view.

Body length: 1.7–1.8 mm.

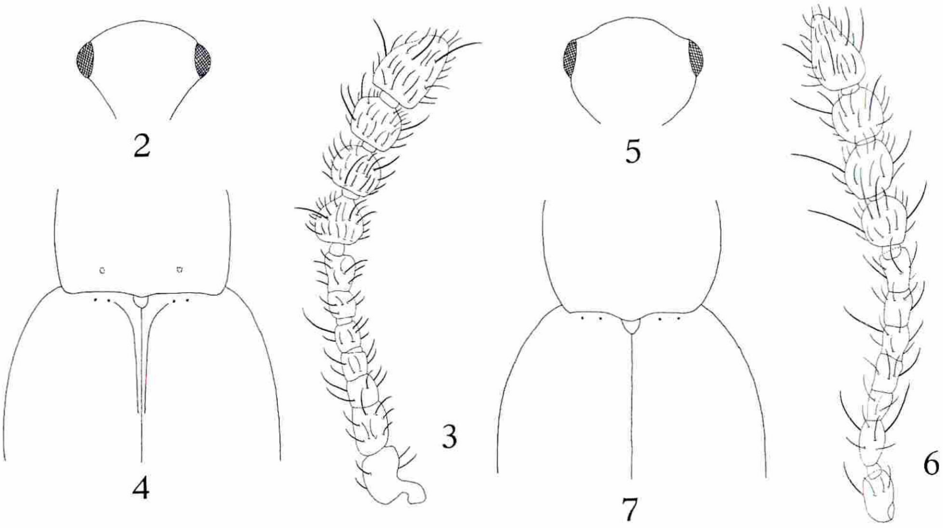
Distribution. Japan: Honshu (Aomori Pref.)

Type series. Holotype, ♂, Kôsei-rindô, Nishimeya Village, Aomori Pref., Honshu, 24. VI. 2000, T. OZAKI leg. (MNHA). Paratypes, 1♀, Kôsei-rindô, Ajigasawa Town, Aomori Pref., Honshu, 25. VI. 1995 and 1♀, 22. VI. 1996, T. OZAKI leg.

Notes. Female is a little thicker than that of male, pronotum and elytra about 1.2 and 1.1 times as wide as those of male, respectively. However, we examined only one male specimen, therefore can not conclude that those differences are based on the sexual dimorphism.

Biology. The subgenus *Nudatoconnus* was described by FRANZ (1980) and was regarded as a synonym of the subgenus *Pycnophus* in FRANZ (1985a). FRANZ (1980) mentioned that some species belonging to *Nudatoconnus* inhabited near banks of rivers. Three specimens of *E.* (*P.*) *tsugaruensis* sp. nov. were also collected from the similar environment (a collector of type series, Dr. T. OZAKI's private communication).

Remarks. *Euconnus* (*Pycnophus*) *tsugaruensis* sp. nov. can be distinguished easily from the other Japanese species of *Euconnus* by having the head and elytra almost glabrous. The present species is similar to Taiwanese species, *Euconnus* (*Pycnophus*) *taiwanicus* described by



Figs. 2–7. *Euconnus* spp. — 2–4, *E.* (*Pycnophus*) *tsugaruensis* HOSHINA et ARAI, sp. nov.; 5–7. *E.* (*P.*) *otorii* HOSHINA et ARAI, sp. nov.; 2 and 5, head; 3 and 6, antenna; 4 and 7, pronotum and elytra.

FRANZ (1985b), but the hind wings are normal and the aedeagus is curved strongly in lateral view; in contrast, *E.* (*P.*) *taiwanicus* has the atrophied hind wings and the aedeagus curved more bluntly in lateral view.

Etymology. The specific epithet is derived from a regional name of the western district of Aomori Pref., Tsugaru, which is the type locality.

Euconnus* (*Pycnophus*) *otorii HOSHINA et ARAI, sp. nov.

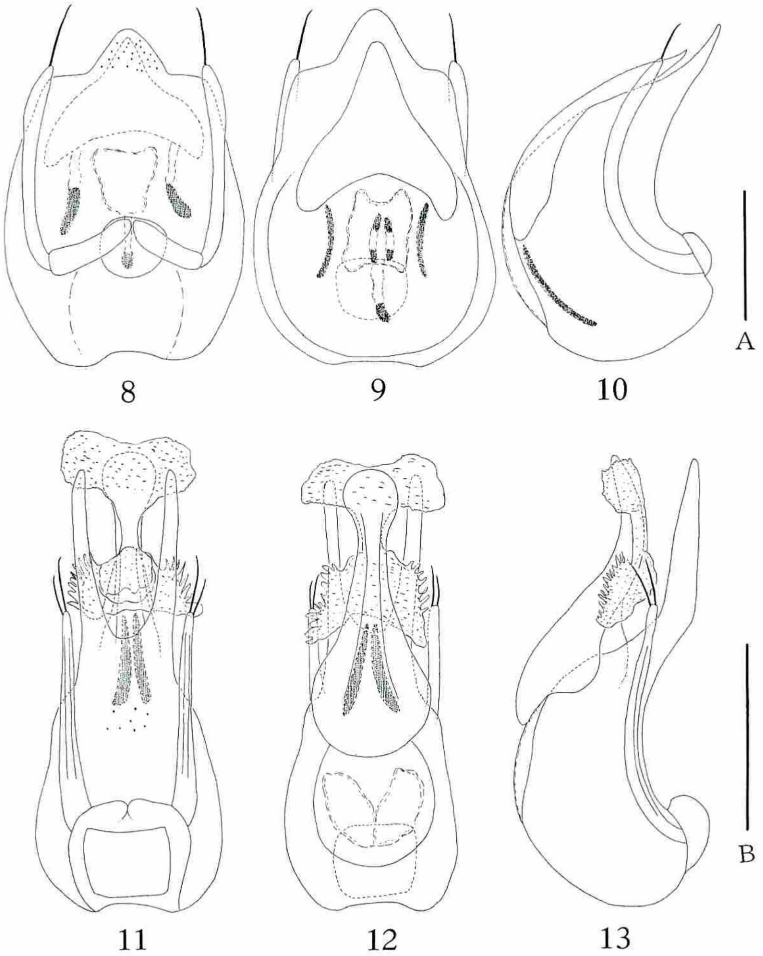
[Japanese name: Bandô-tsuya-hime-kokemushi]

(Figs. 1, 5–7, 11–13)

Male and female. Coloration. Dorsum of body shining, almost concolorous and reddish brown or dark reddish brown; antennae brown or reddish brown; meso- and metasterna, venter, coxae, and trochanters reddish brown or dark reddish brown; femora reddish brown; tibiae a little lighter than femora; tarsi light brown.

Measurement of holotype: Body 1.8 mm in length; head 0.30 mm in length and 0.37 mm in width; pronotum 0.50 mm in length and 0.44 mm in width at a maximal point; elytra 1.0 mm in length and 0.74 mm in width at a maximal point.

Head subround and weakly curved and narrowed towards the base from eyes at lateral margins (Fig. 5), almost glabrous except for a few pubescence along the front margin and on the occiput, impunctate and almost smooth on dorsum; vertex weakly and simply raised; eyes oval, and about 0.33 times as long as the length of head; frons almost flat; distance between antennal insertions about 0.26 times as wide as the width of head; clypeus transverses; the width of occiput at the minimal point about one-third as wide as the maximal width of head; antennae



Figs. 8–13. Male genitalia of *Euconnus* spp. — 8–10, *E.* (*Pycnophus*) *tsugaruensis* HOSHINA et ARAI, sp. nov., 11–13, *E.* (*P.*) *otorii* HOSHINA et ARAI, sp. nov.; 8 and 11, ventral view; 9 and 12, dorsal view; 10 and 13, lateral view. Scale A: 0.1 mm for figs. 8–10. Scale B: 0.2 mm for figs. 11–13.

0.88–0.95 mm in length; antennal club composed of terminal 4 segments, and about 0.80 times as long as the combined length of 1st–7th segments; 1st–7th and 11th segments longer than wide, 8th–10th segments a little wider than long or almost as long as wide; relative lengths of antennal segments from 1st to 11th segments as follows: 12.1 : 10.4 : 7.10 : 9.05 : 8.55 : 9.02 : 10.1 : 10.4 : 12.2 : 12.9 : 18.6 (Fig. 6); 11th segment ovate.

Pronotum hemispherical and convex on dorsum, impunctate and almost smooth, widest at about four-ninths of lateral margins, with dense, stiff, and thick setae; anterior margins almost straight in dorsal view; lateral margins feebly and simply curved along lateral margins; posterior margins very feebly produced posteriorly in the middle to scutellum; basal foveae and basal transverse groove absent (Fig. 7).

Scutellum weakly microreticulate, without punctures and pits.

Elytra widest at about nine-twenties of the lateral margins, impunctate and smooth on dorsum, almost glabrous except for 4–11 fine pubescence which are present on basal half area of elytra; humeri distinct; each elytron with 1 shallow basal impression and 2 basal foveae small and distinct located along posterior margins of pronotum; sutural grooves absent (Fig. 7).

Hind wings normal.

Legs showing sexual dimorphisms; male front femora thicker than those of female, and its width 0.15–0.16 mm in male and 0.10–0.12 mm in female at the maximal points; male middle and hind femora a little wider than or almost as wide as those of female; hind coxae distant each other by three-eighths of length of hind coxa; front tibiae almost as long as middle tibiae; hind tibiae about 1.2 times as long as front tibiae; front and middle tibiae weakly curved at external margins and feebly sinuate at inner margins; hind tibiae stick-shaped, sharply narrowed from about basal one-third towards the base.

Metasternum microreticulate, with a high median carina; mesosternum smooth and convex.

Male. Aedeagus longitudinal and complex, 0.49 mm in length, 0.21 mm in width (Figs. 11–13); median lobe forked apically and its apex bluntly pointed in ventral and dorsal views, sharply narrowed from the apical two-fifths towards the apex in lateral view; parameres slender and almost straight in ventral view and feebly curved in an arc in lateral view; horny process large and its apical and basal parts round in dorsal view, curved in an arc in lateral view.

Body length: 1.6–1.9 mm.

Distribution. Japan: Honshu (Kantô District)

Type series. Holotype, ♂, Watarase-Yûsuichi, Fujioka Town, Tochigi Pref., Honshu, 28. IV. 2001, S. ARAI leg. (MNHA). Paratypes: 2♂♂, 2♀♀, same data as holotype; 4♂♂, 1♀, same locality and date as the holotype, K. TOYODA leg. (1♂ specimen is preserved in Tokyo University of Agriculture); 1♂, Mikuni-bashi, Kitakawabe Town, Saitama Pref., 3. V. 2000, S. ARAI leg.; 1♂, Kami-Ôyashiki, Kawajima Town, Saitama Pref., 1. VII. 2000, S. ARAI leg.; 1♂, Konuma, (beside Iimori River), Sakado City, Saitama Pref., 30. XII. 2000, S. ARAI leg.; 1♂, Mt. Kashiyama (alt. 1000 m), Sutama Town, Yamanashi Pref., 12. V. 2001, S. ARAI leg.

Biology. All specimens were collected from small wetland near ponds and from leaf litter of the dry riverbed, where high humidity was maintained. Therefore, it is possible that two Japanese species belonging to the subgenus *Pycnophus* of the genus *Euconnus* prefer the moist environment though most of Japanese species of *Euconnus* are collected from litter layers in forests.

Remarks. *Euconnus* (*Pycnophus*) *otorii* sp. nov. can be distinguished easily from the other Japanese species of *Euconnus* by having the head and elytra almost glabrous. This new species is similar to *E.* (*P.*) *tsugaruensis* sp. nov., but the head is more weakly narrowed behind eyes towards the base (Fig. 5), the elytra have no sutural grooves (Fig. 7), and the median lobe of the aedeagus is forked apically in ventral and dorsal views (Figs. 11–12). In contrast, *E.* (*P.*) *tsugaruensis* sp. nov. has the head sharply narrowed behind eyes (Fig. 2), the elytra with a sutural groove (Fig. 4), and the median lobe of the aedeagus triangular apically on ventral and dorsal views (Figs. 8–9).

Etymology. This new species is dedicated to a diplomat, Keisuke ÔTORI (1833–1911), who played an active part in Tochigi Pref. which is the type locality.

要　約

保科英人・新井志保・牛嶋啓明：本州産コケムシ科 *Euconnus* 属の 2 新種の記載．———— 青森県と関東地方から *Euconnus* 属の 2 新種が，尾崎俊寛博士と第 2 著者の新井によって採集され，本論文にてそれぞれ *E.* (*Pycnophus*) *tsugaruensis* sp. nov.（ツガルツヤヒメコケムシ）と *E.* (*P.*) *otorii* sp. nov.（バンドウツヤヒメコケムシ）として記載した．この 2 種は，頭部と上翅がほとんど無毛であることから，日本産 *Euconnus* 属の既知種と簡単に区別できる．

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New Records of the Genera *Scaphobaeocera* and *Scaphoxium* (Coleoptera: Staphylinidae) from the Ryukyus, Japan, with Descriptions of Two New Species

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Abstract Two genera of the subfamily Scaphidiinae, *Scaphobaeocera* and *Scaphoxium* are recorded for the first time from the Ryukyus, Japan, together with descriptions of *Scaphobaeocera sunadai* sp. nov. and *Scaphoxium kunigamiense* sp. nov.

The genus *Scaphobaeocera* CSIKI, 1909 belongs to the tribe Scaphisomatini of the subfamily Scaphidiinae, and 11 and 4 species of *Scaphobaeocera* have been recorded in China and Taiwan, respectively (MIWA and MITONO, 1943; LÖBL, 1980, 1999). In Japan, LÖBL (1969) recorded firstly *Scaphobaeocera japonicum* (REITTER, 1880) which was transferred from the genus *Toxidium,* and LÖBL (1981) described further 6 new species. As a result, 7 species of *Scaphobaeocera* have been known to occur in Japan. However, all of them have been recorded from only Honshu, Shikoku, Kyushu and none from the Ryukyus (MIWA and MITONO, 1943; LÖBL, 1981, 1997).

As for the genus *Scaphoxium* was established by LÖBL (1979), 26 species are known to occur in the world (LÖBL, 1997), of which *S. japonicum* LÖBL is the only known species from Honshu and Shikoku in Japan.

In our field surveys in the Ryukyus from 1996 to 2001, we caught 5 and 2 specimens belonging to the genera *Scaphobaeocera* and *Scaphoxium*, respectively, in Okinawa Is. They are apparently new species and are described in this paper.

The holotypes designed in this study are deposited in the collections of the Museum of Nature and Human Activities, Hyôgo (MNHA). All paratypes are preserved in the collection of the first author.

Before going further, we wish to express our sincere gratitude to Dr. Ivan LÖBL (Switzerland) for his continuous help. We also owe thanks to Dr. Shûhei NOMURA (the National Science Museum (Nat. Hist.), Tokyo) who lend us the valuable specimen.

Scaphobaeocera sunadai HOSHINA et SUGAYA, sp. nov.

[Japanese name: Okinawa-hoteikeshi-deokinokomushi]
(Figs. 1, 3, 5, 7, 9–11)

Male. Coloration. Dorsum almost concolorous reddish brown; 1st–6th segments of antennae light brown; other segments brown or dark brown; legs brown except for tarsi a little lighter than other portions of legs; propygidium and pygidium yellowish brown to brown; meso- and metasterna dark brown; venter reddish brown.

Measurement of holotype: Body 1.4 mm in length (excluding propygidium and pygidium); head 0.37 mm in width; pronotum 0.60 mm in length and 0.67 mm in width; elytra 0.90 mm in length and 0.79 mm in width.

Body almost glabrous, about 2.1 times as long as wide (excluding propygidium and pygidium).

Head almost impunctate; frons almost flat, about 0.40 times as wide as head at its narrowest part in frontal view; antennae about 1.9 times as long as cephalic width; all segments longer than wide; relative lengths of antennal segments from 1st to 11th segments as follows: 3.7 : 2.7 : 2.0 : 2.2 : 3.0 : 1.9 : 2.5 : 1.7 : 2.3 : 2.7 : 3.2 ; 11th segment elongate-oval (Fig. 5).

Pronotum about 1.1 times as wide as long, slightly narrower and about 0.69 times as long as elytra, widest at base, simply curved and narrowing towards the apex at lateral margins, strongly sinuate in the middle of posterior margin in dorsal view (Fig. 1), sharply narrowing and pointed basally at ventral margin in lateral view (Fig. 7), almost smooth on dorsum; discal punctures of pronotum very fine and sparse (Fig. 3).

Scutellum covered with the projective portion of pronotum and invisible in dorsal view (Fig. 1).

Elytra widest at about basal one-fifth or one-sixth (Fig. 1), about 1.2 times as long as wide, almost smooth and impunctate (Fig. 3); sutural stria almost as long as elytra, feebly sinuate, and reaching near posterior margins of pronotum (Fig. 3).

Propygidum and pygidium often covered with elytra, each with microsculptures and a few setae.

Meso- and metasterna almost smooth; metasternum punctate, pubescent and shallowly impressed between metacoxae; metepisternum flat, about 0.27 mm in length and 0.08 mm in width, with almost parallel side margins on anterior-half portion; venter weakly microsculptured.

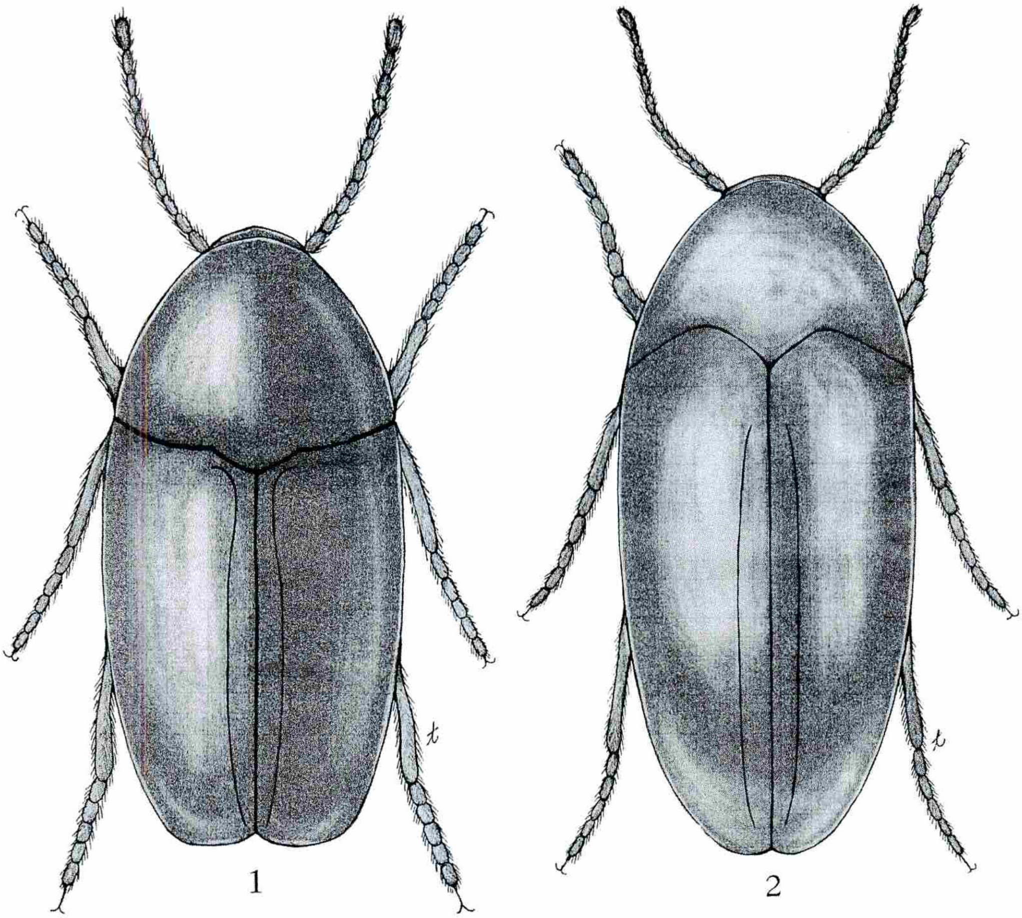
Legs slender; all tibiae straight; protarsi with 1st-2nd segments as wide as protibia and 3rd segment slightly narrower than it.

Male genitalia slender (Figs. 9–11), about 0.33 mm in length (excluding sclerites of inner sac) and about 0.10 mm in width in ventral view; the median lobe bluntly pointed in ventral view and sharply curved and pointed apically in lateral view; parameres almost symmetrical and straight, with round apices in ventral and dorsal views, thick and widening towards apex from the base in lateral view; inner sac simple and largest sclerite curved spirally.

Body length. 1.2–1.4 mm.

Distribution. Japan: Ryukyus (Okinawa Is.).

Type series. Holotype: ♂, Ie-Rindô (alt. 300 m), Okinawa Is., Okinawa Pref., 11–15. IV. 2001, H. SUGAYA leg. (MNHA; this specimen was collected using Tullgren apparatus). Para-

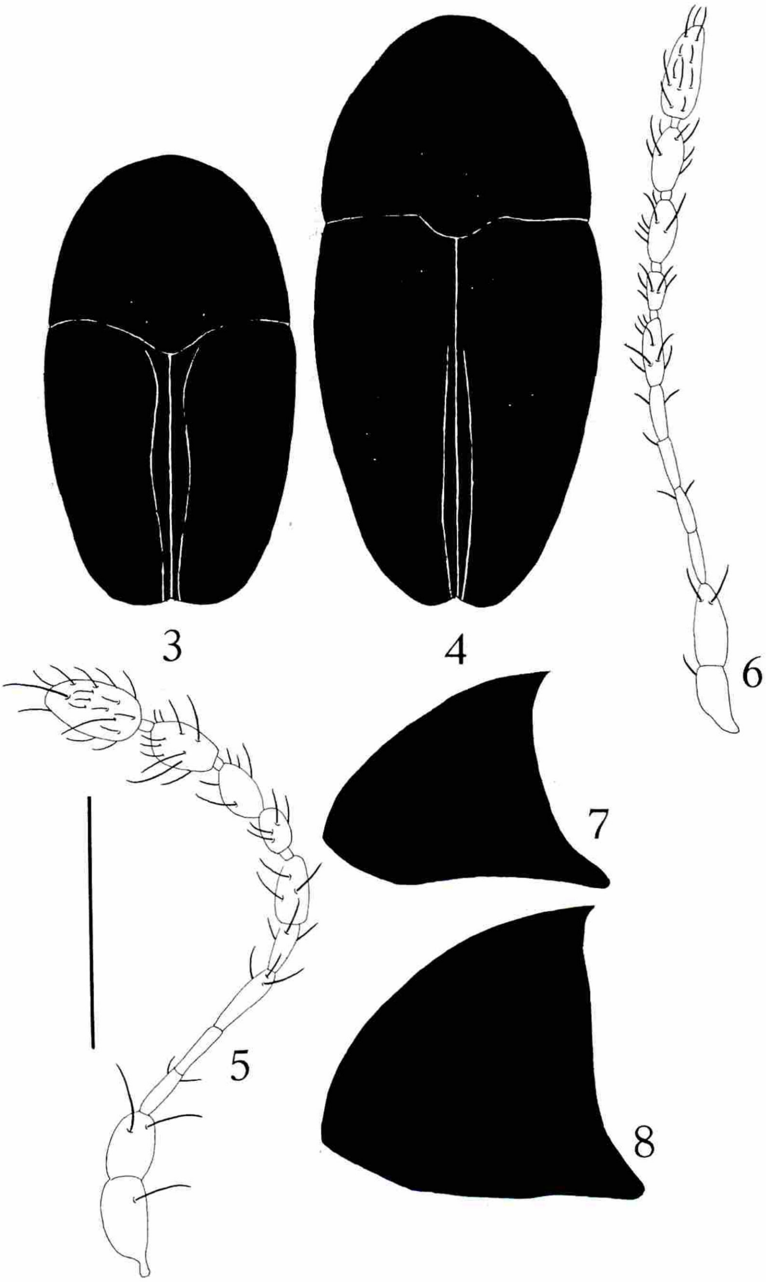


Figs. 1 and 2. Habitus of Scaphidiinae spp.— 1, *Scaphobaeocera sunadai* HOSHINA et SUGAYA, sp. nov.; 2. *Scaphoxium kunigamiense* HOSHINA et SUGAYA, sp. nov.

types: 1♂, Yona, Kunigami Village, Okinawa Is., Okinawa Pref., 12. IV. 1986, S. NOMURA leg.; 3♂♂, Mt. Yonahadake, Kunigami Village, Okinawa Is., Okinawa Pref., 12. IV. 1996, H. HOSHINA leg. (those were collected by the beating).

Remarks. The present new species is the first species of the genus *Scaphobaeocera* in the Ryukyus, and related to a Taiwanese species, *S. formosana* (MIWA et MITONO, 1943), but the median lobe of the male genitalia is slender and the parameres are relatively longer (Figs. 9–11), whereas in *S. formosana*, the median lobe is thick and the parameres are shorter. Moreover, *S. sunadai* sp. nov. is also similar to *S. gracilis* LÖBL, 1981, but the median lobe sharply curved in lateral view (Fig. 9), whereas in *S. grancilis*, the median lobe is weakly curved.

Etymology. This new species is dedicated to Mr. Tomoyuki SUNADA who drew the habitus of two new species described in this paper.



Figs. 3, 5 and 7. *Scaphobaeocera sunadai* HOSHINA et SUGAYA, sp. nov. 4, 6, 8, *Scaphoxium kunigamiense* HOSHINA et SUGAYA, sp. nov. 3–4, habitus; 5–6, antenna; 7–8, pronotum, lateral view. Scale: 0.2 mm for fig. 5 and 0.25 mm for fig. 6.

Scaphoxium kunigamiense HOSHINA et SUGAYA, sp. nov.

[Japanese name: Kunigami-nagakeshi-deokinokomushi]

(Figs. 2, 4, 6, 8, 12–14)

Male and Female. Coloration. Dorsum almost concolorous reddish brown; 1st and 2nd segments of antennae light brown, 3rd-5th segments lighter than basal 2 segments, 6th-11th segments brown to dark brown; coxae, trochanters and femora reddish brown; tibiae brown; tarsi light brown; propygidium and pygidium yellowish brown; meso- and metasterna reddish brown; venter brown.

Measurement of holotype: Body 1.5 mm in length (excluding propygidium and pygidium); head 0.38 mm in width; pronotum 0.65 mm in length and 0.72 mm in width; elytra 0.97 mm in length and 0.75 mm in width.

Body almost glabrous, about 2.1 times as long as wide (excluding propygidium and pygidium).

Head almost impunctate; frons almost flat, about 0.54 times as wide as head at its narrowest part in frontal view; antennae about 1.9 times as long as cephalic width; all segments longer than wide; relative lengths of antennal segments from 1st to 11th segments as follows: 2.7 : 3.1 : 2.0 : 1.7 : 1.9 : 2.0 : 2.4 : 1.4 : 2.3 : 2.4 : 3.4 ; 11th segment slender (Fig. 6).

Pronotum about 1.1 times as wide as long, slightly narrower and about 0.67 times as long as elytra, widest at base, simply curved and narrowing towards the apex at lateral margins, strongly sinuate in the middle of posterior margin in dorsal view (Fig. 2), weakly narrowing and bluntly pointed basally at ventral margin in lateral view (Fig. 8), almost smooth on dorsum; discal punctures of pronotum very fine and sparse (Fig. 4).

Scutellum covered with the expanded portion of pronotum and invisible in dorsal view (Fig. 2).

Elytra widest at about basal one-fifth (Fig. 2), about 1.3 times as long as wide, almost smooth; discal punctures of elytra very fine and sparse (Fig. 4); sutural stria feebly curved, reaching basal one-third or one-fourth of elytra (Fig. 4), and its length sometimes not the same between elytron.

Propygidum and pygidium each with microsculptures and a few setae.

Mesosternum almost smooth, but microreticulate near mesocoxae, with very minute and sparse punctures; metasternum almost impunctate, glabrous except for a few pubescence at apical part, and weakly raised between metacoxae; metaepisternum flat, about 0.30 mm in length and 0.06 mm in width, with almost parallel side margins; venter weakly microsculptured.

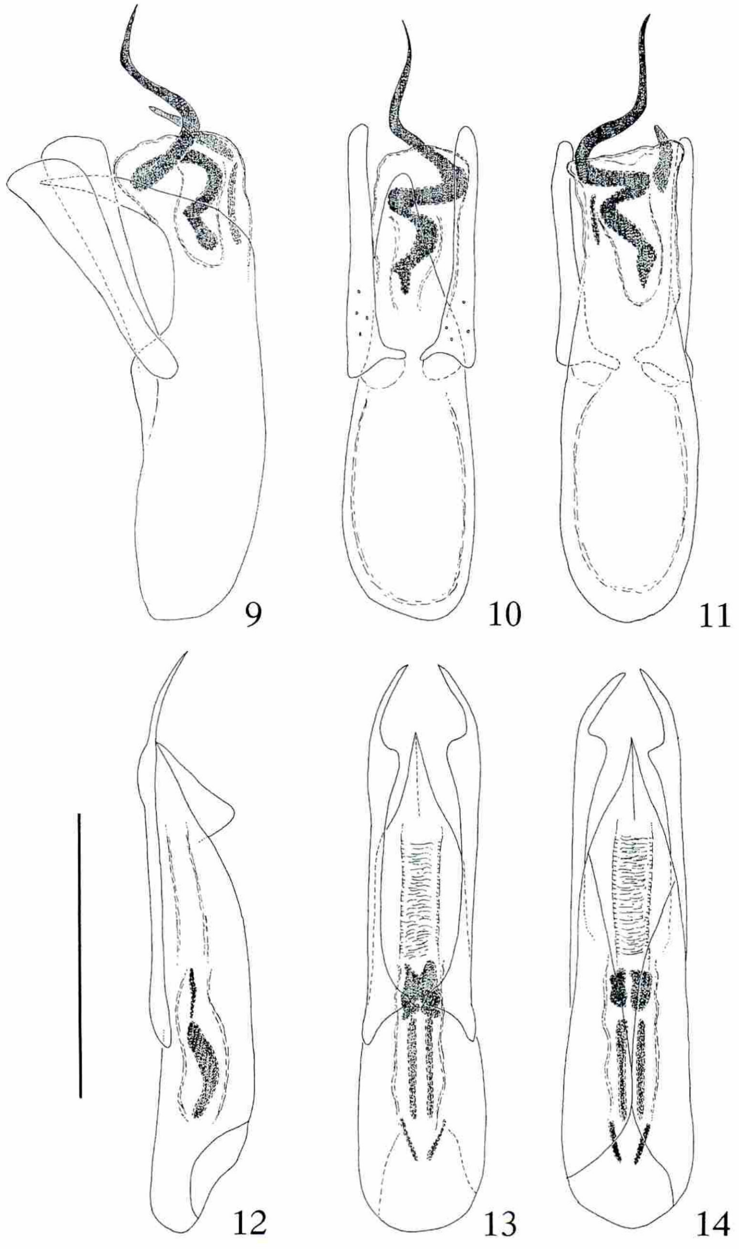
Legs slender; all tibiae straight; protarsi with 1st–3rd segments about 0.70 times as wide as protibia in male, and with 1st–3rd segments a little narrower than those of male in female.

Male genitalia slender (Figs. 12–14), about 0.51 mm in length and about 0.12 mm in width in ventral view; the median lobe sharply pointed in ventral and dorsal views; parameres almost symmetrical and strongly expanded interiorly at apical one-third, thence narrowed and sharply pointed at apex in ventral and dorsal views, weakly expanded ventrally at apical one-third and then curved dorsally, and pointed at apex in lateral view.

Body length. 1.5–1.6 mm.

Distribution. Japan: Ryukyus (Okinawa Is.).

Type series. Holotype: ♂, Mt. Yonahadake, Kunigami Village, Okinawa Is., Okinawa



Figs. 9–14. Male genitalia of Scaphidiinae species; 9–11. *Scaphobaeocera sunadai* HOSHINA et SUGAYA, sp. nov.; 12–14, *Scaphoxium kunigamiense* HOSHINA et SUGAYA, sp. nov.; 9 and 12, lateral view; 10 and 13, ventral view; 11 and 14, dorsal view. Scale : 0.2 mm for figs. 9–11 and 0.25 mm for figs. 12–14.

Pref., 12. IV. 1996, H. HOSHINA leg. (MNHA; this specimen was collected by the beating). Paratype: 1♀, Ie-Rindô (alt. 300 m), Okinawa Is., Okinawa Pref., 11–15. IV. 2001, H. SUGAYA leg. (it was collected using Tullgren apparatus).

Remarks. *Scaphoxium kunigamiense* sp. nov. is the second Japanese species of this genus, and can be distinguished easily from both Taiwanese species, *Scaphoxium taiwanum* LÖBL, 1980 and a Japanese species, *S. japonicum* LÖBL, 1981 by having the relatively slender male genitalia. The present new species is similar to *Scaphoxium avidum* LÖBL, 1990, but the sutural stria on elytron is relatively short (Fig. 4), about 0.20–0.25 mm behind level of pronotal lobe, whereas in *S. avidum,* the sutural stria reaches close to pronotum and 0.10–0.15 mm behind that.

Two new species described above from Okinawa Is. are similar at first sight in body shape, size and coloration, but are different in the length of the sutural stria on elytron (Figs. 3–4).

Etymology. The specific epithet is derived from the type locality, Kunigami Village.

要　約

保科英人・菅谷　洋：琉球からのハネカクシ科 *Scaphobaeocera* 属（ホテイケシデオキノコムシ属）と *Scaphoxium* 属（ナガケシデオキノコムシ属）の新記録と２新種の記載．――――沖縄本島から *Scaphobaeocera* 属と *Scaphoxium* 属が，琉球産としては初めて採集され，著者らは本論文にてそれぞれ *Scaphobaeocera sunadai* sp. nov.（オキナワホテイケシデオキノコムシ）と *Scaphoxium kunigamiense* sp. nov.（クニガミナガケシデオキノコムシ）として記載した．特に，*Scaphoxium kunigamiense* sp. nov. については，LÖBL (1981) が本属を日本から初記録して以来，２種目の記録となる．

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Ent. Rev. Japan, **58** (1): 43–46, April 30, 2003

Tachinus andoi, a New Species from Hubei, Central China (Coleoptera: Staphylinidae)[1]

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Abstract A new species, *Tachinus* (*Tachinus*) *andoi* sp. nov., collected from Shennongjia Nature Reserve of Hubei Province, Central China is described. The major characters are illustrated.

In the summer of 2002, LI and TANG had an opportunity to visit Shennongjia Nature Reserve of Hubei Province, Central China and collected some staphylinid beetles. Among them, an interesting species of the genus *Tachinus* GRAVENHORST has been found. After a careful examination, we have concluded that the species is new to science and would like to describe it in the following lines.

Before going into details, we wish to express our hearty thanks to Dr. Kiyoshi ANDO, Miss Yan ZHANG; Miss Xin-Jin LI and Mr. Jia-Yao HU for their helps in many ways.

Tachinus* (*Tachinus*) *andoi sp. nov.

(Figs. 1–8)

Body length: 3.0–3.8 mm (from front margin of head to anal end); 2.3–2.5 mm (from front margin of head to elytral apices).

Male. Body (Fig. 1) small, elliptical and convex. Color dark brown with shine; head reddish brown along posterior margin; the rest of head, basal 3 segments of antennae, pronotum and legs reddish yellow; elytra widely reddish yellow at sides and posterior margins; posterior margins of abdominal tergites light reddish yellow.

Head small, 0.53 times as wide as pronotum, devoid of punctures, with dense microsculpture consisting mostly of polygonal meshes. Eyes moderately large and convex; ocular setae very fine, located near the inner posterior margin of each eye and much shorter than transverse diameter of an eye. Antennae long, exceeding the posterior margin of pronotum; 1st to 3rd segments glabrous except for long setae; 4th segment sparsely pubescent; 5th to 11th densely pubescent; 10th segment a little longer than wide (L/W = 1.16); relative length of each segment from base to apex: 10.0 : 7.0 : 9.5 : 8.0 : 7.5 : 7.5 : 7.5 : 7.5 : 6.5 : 7.0 : 11.0. Maxillary palpi moderately long, with 4th segment twice as long as the 3rd. Labial palpi with last segment about 0.7 times as long as the 2nd.

Pronotum 0.57 times as long as wide; anterior margin bisinuate; lateral margins arcuate,

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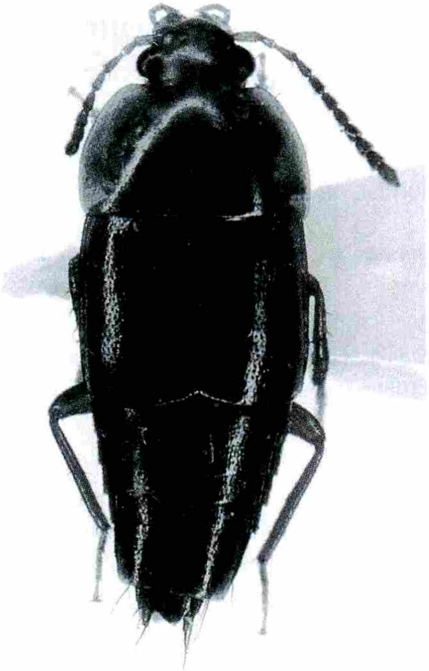


Fig. 1. *Tachinus* (*Tachinus*) *andoi* sp. nov., male.

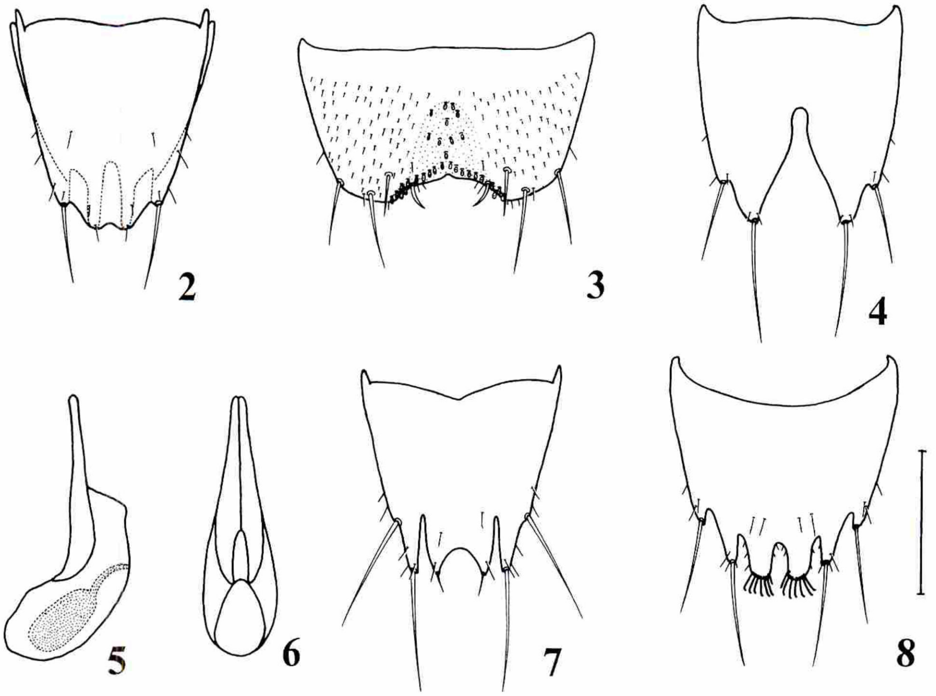
widest near basal third; posterior margin roundly produced behind; posterior angles rounded; disc finely and sparsely punctate, with microsculpture similar to that on head. Scutellum broadly parabolic, impunctate, with microsculpture consisting of transverse waves.

Elytra in sutural length 1.26 times as long as the median length of pronotum, 0.72 times as long as wide; sides nearly parallel; posterior conjoint margins slightly emarginate at the middle; apical angles rounded; surface provided with dense and coarse punctures and with coarse microsculpture consisting mostly of elongate meshes.

Abdomen triangular, strongly narrowed from base to apex; surface sparsely covered with fine pubescence, devoid of pruinose spots on tergites (except for one specimen which has a pair of very small minute pruinose spots near the middle of third tergite); punctures and microsculpture distinctly finer than those on elytra, respectively. Eighth tergite (Fig. 2) 4-lobed, shallowly and triangularly emarginate between inner lobes; outer lobes small, but definite. Seventh sternite (Fig. 3) shallowly and roundly emarginate at apical margin, triangularly and slightly impressed at the middle of posterior part, where granules are sparsely provided and some of them are evenly arranged near the posterior margin. Eighth sternite (Fig. 4) with apical margin deeply emarginate, the depth 0.57 times as long as the length of sternite. Aedeagus (Figs. 5–6) medium in size, with lateral lobes distinctly long, thin and almost straight, somewhat thickened at apices.

Legs moderately long, with protarsal segments 1–4 dilated; relative lengths of hind tarsal segments from base to apex: 7.0 : 4.5 : 4.0 : 3.0 : 9.0.

Female. Eighth tergite (Fig. 7) with inner lobes a little longer than lateral lobes, separated



Figs. 2–8. *Tachinus* (*Tachinus*) *andoi* sp. nov. – 2, male 8th tergite; 3, male 7th sternite; 4, male 8th sternite; 5, aedeagus in lateral view; 6, aedeagus in ventral view; 7, female 8th tergite; 8, female 8th sternite. (Scale: 0.5 mm).

from each other by a semicircular emargination. Eighth sternite (Fig. 8) 6-lobed, with inner lobes separated by a U-shaped emargination, each apex about 3 times as wide as lateral lobe in apical width.

Type series. Holotype: ♂, Shennongjia Nature Reserve, Hubei Province, 6. VIII. 2002, LI and TANG leg. Paratypes: 7♂♂, 3♀♀, same data as the holotype.

All the type specimens are deposited in the Department of Biology, Shanghai Teachers University.

Distribution. China (Hubei Province).

Notes. The present new species is collected from leaf litter near stream, and has variation in body coloration and the number of abdominal pruinose spot.

Remarks. By the characters (small body, sparsely pubescent fourth segment of antennae, lacking pruinose spot on abdominal tergite in most examined specimens), it seems to be similar to the species of subgenus *Tachinoderus*, but we prefer to place it in subgenus *Tachinus* as it has dense and coarse microsculpture on head, pronotum, elytra and abdominal tergites, and 3rd to 4th antennal segments are hardly pubescent. This species is a little similar to *Tachinus* (*Tachinus*) *binotatus* LI from Zhejiang Provence, but can be easily distinguished from the latter by the following points: pronotum reddish yellow; surface with dense and coarse microsculpture; lateral lobes of male genitalia nearly straight.

要　　約

湯 亮・李 利珍・趙 梅君：中国湖北省産 *Tachinus* 属の1新種．——— 2002年の8月に中国湖北省神農架自然保護区に於いて著者のうち，李 利珍，湯 亮の2名により *Tachinus* 属に属する未記載種が発見され，ここに新種，*T.* (*Tachinus*) *andoi* sp. nov. として記載した．本種は一見 *Tachinoderus* 亜属の種に類似するが体上面や腹板の微細構造から *Tachinus* 亜属に属すると考えられ，近似種 *T.* (*Tachinus*) *binotatus* LI とは雄交尾器や体表面の微細構造などの顕著な外観によって容易に区別できる．

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New Records of Tiger Beetle Species from Peninsular Malaysia (Coleoptera: Cicindelidae)

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Abstract *Tricondyla* (*Tricondyla*) *wallacei* THOMSON, 1857 and *Neocollyris* (*Leptocollyris*) *cylindripennis* (CHAUDOIR, 1864) are recorded for the first time from Peninsular Malaysia (= Malacca). The tiger beetle species from Malacca increases to 69 in number.

The entomologists E. JENDEK and O. ŠAUŠA recently made a journey to Peninsular Malaysia (Malacca), and their collection of the tiger beetles are dealt with in this paper. Unless otherwise stated, specimens enumerated in the following were collected by them at Lata Lembik, 30 km NE Raub, 200 – 400 m, 3° 56'N; 101° 38'E, Pahang distr., Peninsular Malaysia in 2002. These specimens are preserved in our collections.

Tricondyla (*Tricondyla*) *wallacei* THOMSON, 1857

Specimen examined: 1♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia, Sumatra (Aceh, S. Utara, S. Uelatan), Borneo (Brunei, Sarawak).

New record for Peninsular Malaysia.

Tricondyla (*Tricondyla*) *beccarii cassolai* NAVIAUX, 2002

Specimen examined: 1♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia, W. Sumatra.

Neocollyris (*Neocollyris*) *bonellii bonellii* (GUÉRIN-MÉNEVILLE, 1834)

Specimens examined: 7♂♂, 5♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002; 1♀, Taman Negara, Nusa camp, 50 – 150 m, 4°23'N; 102°25'E, Pahang distr., 3~6. V. 2002, Malaysia, E. JENDEK and O. ŠAUŠA leg.

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*) 82. Contribution towards the knowledge of Cicindelidae

Distribution: Jawa, Bali, Sumatra, Sumbawa, Sumba, Flores, Borneo (Kalimantan), Sulawesi, Peninsular Malaysia, Singapore, Nepal, India, Bangladesh, Myanmar, Thailand, Laos, Vietnam, China (Hong Kong, Hai Nan, Kwang Tung, Hunan).

Neocollyris (*Neocollyris*) *elongata* (CHAUDOIR, 1864)

Specimens examined: 12♂♂, 9♀♀, Lata Lembik, 22. IV.~1. V., 8.~15. V. 2002.

Distribution: Thailand, Peninsular Malaysia.

Neocollyris (*Neocollyris*) *emarginata* (DEJEAN, 1825)

Specimen examined: 1♂, Lata Lembik, 22. IV.~1. V., 8.~15. V. 2002.

Distribution: Peninsular Malaysia, Borneo (Sarawak, Kalimantan), Jawa, Sumatra (S. Utara, S. Barat, Bengkulu, S. Selatan), Mindanao, Palawan.

Neocollyris (*Leptocollyris*) *linearis tenuicornis* (CHAUDOIR, 1864)

Specimens examined: 9♂♂, 5♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Thailand, Peninsular Malaysia, Sumatra (S. Utara, S. Barat, Bengkulu).

Neocollyris (*Leptocollyris*) *jendeki* NAVIAUX, 2003

Specimens examined: 2♂♂, 1♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia.

Neocollyris (*Leptocollyris*) *sausai* NAVIAUX, 2003

Specimen examined: 1♂, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia.

Neocollyris (*Leptocollyris*) *subtilis* (CHAUDOIR, 1863)

Specimen examined: 1♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: ?Nepal, Thailand, Peninsular Malaysia, Sumatra (S. Utara, S. Barat), Laos.

Neocollyris (*Leptocollyris*) *cylindripennis* (CHAUDOIR, 1864)

Specimen examined: 1♂, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Myanmar, Thailand, Peninsular Malaysia, Laos, Vietnam, Cambodia, China (Hunan).

New record for Peninsular Malaysia.

Neocollyris (*Stenocollyris*) *leucodactyla* (CHAUDOIR, 1860)

Specimens examined: 2♂♂, 3♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia, Sumatra (Aceh, S. Utara, S. Barat, Bengkulu, Lampung), Borneo (Brunei, Sarawak).

Neocollyris (*Stenocollyris*) *sarawakensis macrodera* (CHAUDOIR, 1864)

Specimens examined: 1♂, 2♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia.

Heptodonta analis (FABRICIUS, 1801)

Specimens examined: 4♂♂, 7♀♀, Lata Lembik, 22. IV.~1. V., 8.~15. V. 2002.

Distribution: S. Thailand, Peninsular Malaysia, Sumatra (S. Utara, S. Barat), Jawa, Borneo (Sarawak, Sabah), Sulawesi (S. Selatan), Luzon.

Therates hiermeieri WERNER, 1991

Specimens examined: 2♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Peninsular Malaysia.

Therates dimidiatus wallacei THOMSON, 1857

Specimens examined: 5♂♂, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: Thailand, Borneo, Peninsular Malaysia, Sumatra.

Cylindera (*Verticina*) *versicolor* (MACLEAY, 1825)

Specimens examined: 6♂♂, 3♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002; 1 ♀, Taman Negara, Nusa camp, 50 – 150 m, 4°23'N; 102°25'E, Pahang distr., 3~6. V. 2002, Malaysia, E. JENDEK and O. ŠAUŠA leg.

Distribution: Thailand, Peninsular Malaysia, Borneo (Sarawak, Sabah, Brunei), Sumatra (Aceh, S. Utara, S. Uarat, Bengkulu, S. Selatan, Lampung), Jawa.

Cylindera (*Leptinomera*) *catoptroides* (HORN, 1892)

Specimens examined: 5♂♂, 9♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002; 14♀♀, Taman Negara, Nusa camp, 50 – 150 m, 4°23'N; 102°25'E, Pahang distr., 3~6. V. 2002, Malaysia, E. JENDEK and O. ŠAUŠA leg.

Distribution: Peninsular Malaysia, Borneo (Sabah, Sarawak, Brunei), Sumatra (Aceh, S. Utara, S. Barat, Bengkulu, S. Selatan, Lampung).

Table I–1

Nr.	Species	Country				
		Malacca	**Thailand**	**Sumatra**	**Borneo**	**Vietnam**
1.	*Tricondyla* (*Tricondyla*) *annulicornis* SCHMIDT-GOEBEL, 1846	×	×			×
2.	*Tricondyla* (*Tricondyla*) *brunnea* DOKHTOUROFF, 1883	×		×	×	
3.	*Tricondyla* (*Tricondyla*) *wallacei* THOMSON, 1857	×		×	×	
4.	*Tricondyla* (*Tricondyla*) *beccarii cassolai* NAVIAUX, 2002	×		×		
5.	*Protocollyris brevilabris* (HORN, 1892)	×	×	×		
6.	*Neocollyris* (*Brachycollyris*) *purpureomaculata borea* NAVIAUX, 1994	×	×			
7.	*Neocollyris* (*Neocollyris*) *bonellii bonellii* (GUÉRIN-MÉNEVILLE, 1834)	×	×	×	×	×
8.	*Neocollyris* (*Neocollyris*) *batesi* (HORN, 1892)	×	×		×	
9.	*Neocollyris* (*Neocollyris*) *fuscitarsis* (SCHMIDT-GOEBEL, 1846)	×	×	×		×
10.	*Neocollyris* (*Neocollyris*) *dimidiata* (CHAUDOIR, 1864)	×	×	×	×	
11.	*Neocollyris* (*Neocollyris*) *diardi* (LATREILLE, 1822)	×		×	×	
12.	*Neocollyris* (*Neocollyris*) *elongata* (CHAUDOIR, 1864)	×	×			
13.	*Neocollyris* (*Neocollyris*) *chloroptera* (CHAUDOIR, 1860)	×	×	×	×	
14.	*Neocollyris* (*Neocollyris*) *thomsoni* (HORN, 1894)	×	×			
15.	*Neocollyris* (*Neocollyris*) *emarginata* (DEJEAN, 1825)	×		×	×	
16.	*Neocollyris* (*Neocollyris*) *rufipalpis* (CHAUDOIR, 1864)	×	×			×
17.	*Neocollyris* (*Orthocollyris*) *crassicornis* (DEJEAN, 1825)	×	×	×		×
18.	*Neocollyris* (*Orthocollyris*) *subclavata subclavata* (CHAUDOIR, 1860)*	×				
19.	*Neocollyris* (*Leptocollyris*) *linearis tenuicornis* (CHAUDOIR, 1864)	×	×	×		
20.	***Neocollyris* (*Leptocollyris*) *jendeki* NAVIAUX, 2003**	×				
21.	***Neocollyris* (*Leptocollyris*) *sausai* NAVIAUX, 2003**	×				
22.	*Neocollyris* (*Leptocollyris*) *xanthoscelis* (CHAUDOIR, 1864)	×		×	×	
23.	*Neocollyris* (*Leptocollyris*) *subtilis* (CHAUDOIR, 1863)	×	×	×		
24.	*Neocollyris* (*Leptocollyris*) *variitarsis minuta* NAVIAUX, 1995	×	×	×		
25.	*Neocollyris* (*Leptocollyris*) *cylindripennis* (CHAUDOIR, 1864)	×	×			×
26.	*Neocollyris* (*Stenocollyris*) *leucodactyla* (CHAUDOIR, 1860)	×		×	×	
27.	*Neocollyris* (*Stenocollyris*) *dohertyi* (HORN, 1895)	×	×	×	×	
28.	***Neocollyris* (*Stenocollyris*) *sarawakensis macrodera* (CHAUDOIR, 1864)**	×				
29.	*Neocollyris* (*Stenocollyris*) *oblita* NAVIAUX, 1995	×		×	×	
30.	*Neocollyris* (*Leiocollyris*) *richteri* (HORN, 1901)	×		×	×	
31.	*Neocollyris* (*Pachycollyris*) *aptera aptera* (LUND, 1790)	×			×	
	Neocollyris (*Pachycollyris*) *aptera apicalis* (CHAUDOIR, 1864)	×		×		
32.	*Neocollyris* (*Neocollyris*) *major* (LATREILLE, 1822)	×	×			
33.	*Collyris robusta* DOHRN, 1891	×		×	×	
34.	*Prothyma* (*Genoprothyma*) *heteromlla* (MACLEAY, 1825)	×	×			×
35.	*Heptodonta analis* (FABRICIUS, 1801)	×	×	×	×	
36.	*Heptodonta eugenia* CHAUDOIR, 1865	×	×			×
37.	*Therates similis* PROBST & WIESNER, 1994	×	×			
38.	*Therates chenelli* BATES, 1878	×	×			
39.	*Therates kraatzi* HORN, 1900	×	×			
40.	*Therates confluens* WIESNER, 1988	×				×
41.	***Therates merkli* WERNER, 1996**	×				
42.	***Therates fleutiauxi* HORN, 1898**	×				
43.	***Therates hiermeieri* WERNER, 1991**	×				
44.	*Therates batesii batesii* THOMSON, 1857	×		×	×	
45.	***Therates riedeli* WIESNER, 1991**	×				
46.	*Therates dimidiatus wallacei* THOMSON, 1857	×	×	×	×	
47.	*Calochroa elegantula* (DOKHTOUROFF, 1882)	×	×			×
48.	*Calochroa interruptofasciata interruptofasciata* (SCHMIDT-GOEBEL, 1846)	×	×			×
49.	*Lophyridia angulata angulata* (FABRICIUS, 1798)	×	×	×	×	×
50.	*Lophyridia plumigera scoliographa* RIVALIER, 1953	×	×			×
	Lophyridia plumigera pseudodespectata NAVIAUX, 1986	×				

Table I–2

		Country				
Nr.	**Species**	**Malacca**	**Thailand**	**Sumatra**	**Borneo**	**Vietnam**
51.	*Lophyridia funerea funerea* (MacLeay, 1825)	×	×			×
52.	*Cosmodela duponti duponti* (Dejean, 1826)	×	×			×
53.	*Cosmodela aurulenta aurulenta* (Fabricius, 1801)	×		×	×	
54.	*Lophyra* (*Lophyra*) *fuliginosa* (Dejean, 1826)	×	×	×	×	×
55.	*Lophyra* (*Lophyra*) *cancellata cancellata* (Dejean, 1825)	×	×			×
56.	*Lophyra* (*Spilodia*) *striolata striolata* (Illger, 1800)	×	×	×	×	×
57.	*Lophyra* (*Spilodia*) *lineifrons* (Chaudir, 1865)	×	×			×
58.	*Cylindera* (*Verticina*) *versicolor* (MacLeay, 1825)	×	×	×	×	
59.	*Cylindera* (*Leptinomera*) *catoptroides* (Horn, 1892)	×		×	×	
60.	***Cylindera* (*Leptinomera*) *kualatahanensia* Matalin & Cassola, 2000**	×				
61.	*Cylindera* (*Ifasina*) *viduata* (Fabricius, 1801)	×	×	×	×	×
62.	*Cylindera* (*Ifasina*) *psilica psilica* (Bates, 1866)	?				×
63.	*Cylindera* (*Ifasina*) *subtilesignata* (Mandl, 1970)**	×				
64.	*Cylindera* (*Ifasina*) *discreta discreta* (Schaum, 1863)	×		×	×	
65.	*Cylindera* (*Eugrapha*) *minuta* (Olivier, 1790)	×	×	×	×	×
66.	*Myriochile* (*Myriochile*) *speculifera speculifera* (Chevrolat, 1845)	×	×			×
67.	*Hypaetha quadrilineata quadrilineata* (Fabricius, 1781)	×	×			
68.	*Hypaetha biramosa contracta* (Fleutiaux, 1893)	×	×			
69.	*Callytron andersonii* (Gestro, 1889)	×	×			×
	number of species per column	69	42	34	28	24
	8 number of endemic species (bold typed in table)					
*) also known from Nepal, India and Andaman Is. **) also known from India and Myanmar.						

Cylindera (*Ifasina*) *viduata* (Fabricius, 1801)

Specimens examined: 14 ♂♂, 6♀♀, Lata Lembik, 22. IV.~1. V., 8~15. V. 2002.

Distribution: India, Nepal, Bangladesh, Myanmar, Peninsular Malaysia, Borneo, Sumatra, Sumbawa, Sulawesi, Jawa, Bali, Thailand, Laos, Cambodia, Vietnam, Palawan, Leyte, Tawitawi, Mindanao, Papua New Guinea (Western Province), China (Shang Hai, Hong Kong, Hai Nan).

Summary

The following species are recorded for the first time from Peninsular Malaysia: *Tricondyla* (*Tricondyla*) *wallacei* Thomson, 1857 and *Neocollyris* (*Leptocollyris*) *cylindripennis* (Chaudoir, 1864).

The tiger beetle species from Peninsular Malaysia (Malacca) (refer to table) now increase to 69 in number, of which 8 species (= 12 %) are endemic, 42 (= 61 %) are known from Thailand (with a total of 131 species), 34 (= 49 %) from Sumatra (77 known species), 28 (= 41 %) from Borneo (94 known species) and 24 (= 35 %) from Vietnam (126 known species).

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The authors are indebted to many friends and colleagues, especially E. JENDEK and O. ŠAUŠA for the material, and R. NAVIAUX for his studies on *Tricondyla* and *Neocollyris*.

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Synonymic and Faunistic Notes on Some Weevils in Japan (Coleoptera: Curculionoidea)

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Abstract Synonymic and faunistic notes on some Japanese weevils are provided including 5 new synonymies, 2 resurrections of species status and 8 newly recorded species, with comments on 8 little-known species.

In preparation of a revised check-list of weevils in Japan, the nomenclatural changes and faunal records new to or little-known in Japan are confirmed as noted in the followings including 5 new synonymies, 2 names resurrected from synonymies, and 8 species new to the fauna of Japan. Little-known taxonomic treatments or faunal records are also incorporated for 8 species. Arrangement of species for the subfamilies and tribes are mostly followed after ALONSO-ZARAZAGA and LYAL (1999).

Anthribidae

Trigonorhinus trimaculatus (SENOH, 1986)

[Japanese name: Mitsumon-higenaga-zoumushi]

Opanthribus trimaculatus SENOH, 1986, Kontyû, 54: 706, fig. 1 (Tokyo, Fukuoka).
Trigonorhinus trimaculatus: SENOH, Coleopterists' News, (99): 1.
Trigonorhinus japonicus MORIMOTO, 1999, Ent. Rev. Japan, 54 : 61 (Fukui City). – **syn. nov.**

Apionidae

Eutrichapion (*Eutrichapion*) *ervi* (KIRBY, 1808)

[Japanese name: Kihige-hosokuchi-zoumushi]

Apion ervi KIRBY, 1808, Trans. Linn. Soc. Lond., 9: 23.

Apion (*Eutrichapion*) *ervi* of authors.
Eutrichapion (*Eutrichapion*) *ervi*: ALONSO-ZARAZAGA, 1990, Graellsia, 46: 148.
Apion kihige NAKANE, 1963, Icon. Ins. Jap. col. nat. ed. II: 358, pl. 179, fig. 19. – **syn. nov.**

Distribution. Palaearctic, Japan (Hokkaido, Honshu).

Melanapion* (*Melanapion*) *naga (NAKANE, 1963)

[Japanese name: Naga-hosokuchi-zoumushi]

Apion (*Perapion*) *naga* NAKANE, 1963, Icon. Ins. Jpn, col. nat. ed. II: 358, pl. 179, fig. 18.
Melanapion (*Melanapion*) *naga*: KOROTYAEV and EGOROV, 1995, Ent. Oboz., 74: 861.

Distribution. Palaearctic, Alaska, Canada, Japan (Hokkaido, Honshu, Kyushu).

Note. NAKANE (1963) included above-mentioned two species of *Apion* in the Iconographia, but did not describe elsewhere. The former is newly synonymized with *E. ervi*, and the latter was well redescribed and illustrated by KOROTYAEV and EGOROV (1995), who reported it to be associated with galls produced by *Pontania* spp. (Hymenotpera: Tenthredinidae) on leaves of *Salix* spp.

Dryophthoridae (= Rhynchophoridae)

Sphenophorini

Rhabdoscelus similis (CHEVROLAT, 1883), **comb. nov.**

[Japanese name: Shirosuji-osa-zoumushi]

Cercidocerus similis CHEVROLAT, 1883, Ann. Soc. ent. Fr., (6) 2: 573 (Iles Philippines).
Rhabdocnemis lineatocollis HELLER, 1912, Philipp. J. Sci., 7, D: 395 (Luzon, Palawan). — SCHULTZE, 1916, Philipp. J. Sci., 11, D: 149 (Luzon, Laguna, Madalena, Mindoro, Bohol). — DAMMERMAN, 1929, Agr. Zool. Malay Arch.: 98 (Pest of Royal palm *Oreodoxa* in the Philippines). — LEPESME, 1947, Ins. Palm.: 626 (Host: *Oreodoxa regina*, Philippines). — KALSHOVEN 1961, Beaufortia, 9: 63 (Quoted from Banks, 1906). — **syn. nov.**
Cyrtotrachelus sp., BANKS, 1906, Philipp. J. Sci., 1: 161, pl. 11. (Hosts: *Betel palm*, *Areca catechu* and coconut tree, Philippines)
Rhabdoscelus lineatocollis: KINJO *et al.*, 1995, Proc. Assoc. Pl. Prot. Kyushu, 41: 81 (Localities, hosts and damage in Okinawa).

Note. This weevil was first discovered in Okinawa in 1993 and becomes a serious pest to the sugar cane and palms on Okinawa-hontô and Ishigaki-jima Isls. The type of *C. similis* in the Naturhistoriska riksmuseet in Stockholm was examined.

Erirhinidae

Notaris acridulus (LINNAEUS, 1758)

[Japanese name: Hababiro-inezou-modoki]

(Fig. 1)

Curculio acridulus LINNAEUS, 1758, Syst. Nat. ed. 10: 378.
Notaris acridulus of authors.

Erirhinus acridulus of authors. — HORI, 1996, Rep. excel. nat. Areas: 290, photo. 11–5–6 (Hokkaido: Okobbe River).

Specimen examined. 1 ♂, Mouth of Okobbe River, Hokkaido, 17. VII~2. VIII. 1994, S. HORI leg.

Distribution. Japan (Hokkaido), Europe, Siberia.

Note. This species was first recorded from Japan by HORI (1996) from a marsh at the mouth of Okoppe river in Hokkaido.

Tournotaris bimaculatus (FABRICIUS, 1787)

[Japanese name: Oo-inezou-modoki]

(Fig. 2)

Curculio bimaculatus FABRICIUS, 1787, Mant. Ins., 1: 98.

Notaris bimaculatus of authors.

Erirhinus bimaculatus of authors. – HORI, 1996, Rep. excel. nat. Areas: 291, photo. 11–5–8 (Hokkaido: Oumu-machi).

Tournotaris bimaculatus: ALONSO-ZARAZAGA and LYAL, 1999, World Cat. Fam. Gen. Curc.: 70

Specimens examined: 1 ♂, 1 ♀, Oumu-machi, Hokkaido, 17. VII. 1994, S. HORI leg.

Distribution: Japan (Hokkaido), Holarctic region.

Note. This species was recorded by HORI (1996) from a marsh on the lower Onnishi River in Hokkaido. Above-mentioned two species were collected in the pitfall traps.

Curculionidae
Curculioninae
Acalyptini

Amorphoidea lata MOTSCHULSKY, 1858

[Japanese name: Wata-deo-zoumushi]

(Figs. 4, 5)

Amorphoidea lata MOTSCHULSKY, 1858, Etud. Ent., 7: 79. — WOODWORTH, 1922, Philipp. Agric., 10 (3): 75–81 (biology). — OTANES, F. Q. and F. L. BUTAC, 1935. Philipp. J. Agric., 6 (2): 149 (biology, control). — MIWA and INAMURA, 1938, Shokubutsu Kensa Siryou, Taiwan, 7 (4/5): 2 (Watano–zoumushi in Japanese). — KALSHOVEN, 1981, Pest of crops in Indonesia: 521. MURAKAMI and WASHITANI, 2002, Handbook Alien Sp. Jpn.: 308.

Specimens examined. Japan: 85 exs., Ryukyus. Hoshidate, Iriomote-jima Is., 31. III. 1990, H. KOJIMA leg.; 1 ex., Yoshihara, Ishigaki-jima Is., 5. VIII. 1993, K. MORIMOTO leg.; 5 exs., Yonehara, Ishigaki-jima Is., 6. VII. 1993, H. KOJIMA leg. Many specimens from the Philippines.

Distribution. Philippines, Malaysia, Indonesia, Japan: Ryukyus (Ishigaki-jima and Iriomote-jima Isls.).

Note. *Amorphoidea lata* is one of the most serious pests of cotton in the Philippines and is known as the Oriental cotton boll weevils. The life history was studied by WOODWORTH (1922) and OTANES and BUTAC (1935) including its control measures. WOODWORTH (1922) recorded *A. lata* also bred in the flower of *Thespesia lampas*, and the adults feed on flowers of other Malvaceae. MIWA and INAMURA (1938) alarmed the introduction of *A. lata* into Taiwan, but the occurrence has not yet been confirmed from Taiwan. Many adults were found on flowers of *Hibiscus tiliaceus* in the Ryukyus, southwestern islands of Japan. This species was enumerated in the recent list of the alien species in Japan by MURAKAMI and WASHITANI (2002) probably quoted from the abstract of annual meeting presented by KOJIMA (1998), and is little known about the record.

Ellescini

Ellescus bipunctatus (LINNAEUS, 1758)

[Japanese name: Futamon-hanamoguri-zoumushi]

(Fig. 6)

Curculio bipunctatus LINNAEUS, 1758, Syst. Nat. ed. 10: 380.
Elleschus bipunctatus of authors.
Ellescus bipunctatus of authors.

Specimens examined. 1♂, 5♀♀, Hikawa-rindô, Daibosatsu, Yamanashi Pref., 22–23. V. 1982, K. EMOTO leg. (on *Salix* sp.); 1♀, Mt. Takanosu, Okutama, Tokyo, 11–12. VI. 1986, K. MATSUMOTO leg.; 1♀, Kibio, Kisokoma-kôgen, Nagano Pref., 21. V. 1989, K. MATSUI leg.

Distribution. Europe to Siberia, North America, Japan (Honshu) – **new record**.

Ellescus infirmus (HERBST, 1759)

[Japanese name: Ko-hanamoguri-zoumushi]

(Fig. 7)

Curculio infirmus HERBST, 1759, Natursyst. Ins., Käfer, 6: 257.
Elleschus infirmus of authors.
Ellescus infirmus of authors.

Specimen examined. 1♀, Meguro Sarudomegawa-rindô, Erimo Town, Hokkaido, 19. VI. 1992, K. MIYASHITA leg.

Distribution. Europe to Siberia, Japan (Hokkaido) – **new record**.

Note. Weevils of *Ellescus* species are known to be associated with catkin of *Salix* spp. (*Salicaceae*).

Ramphini

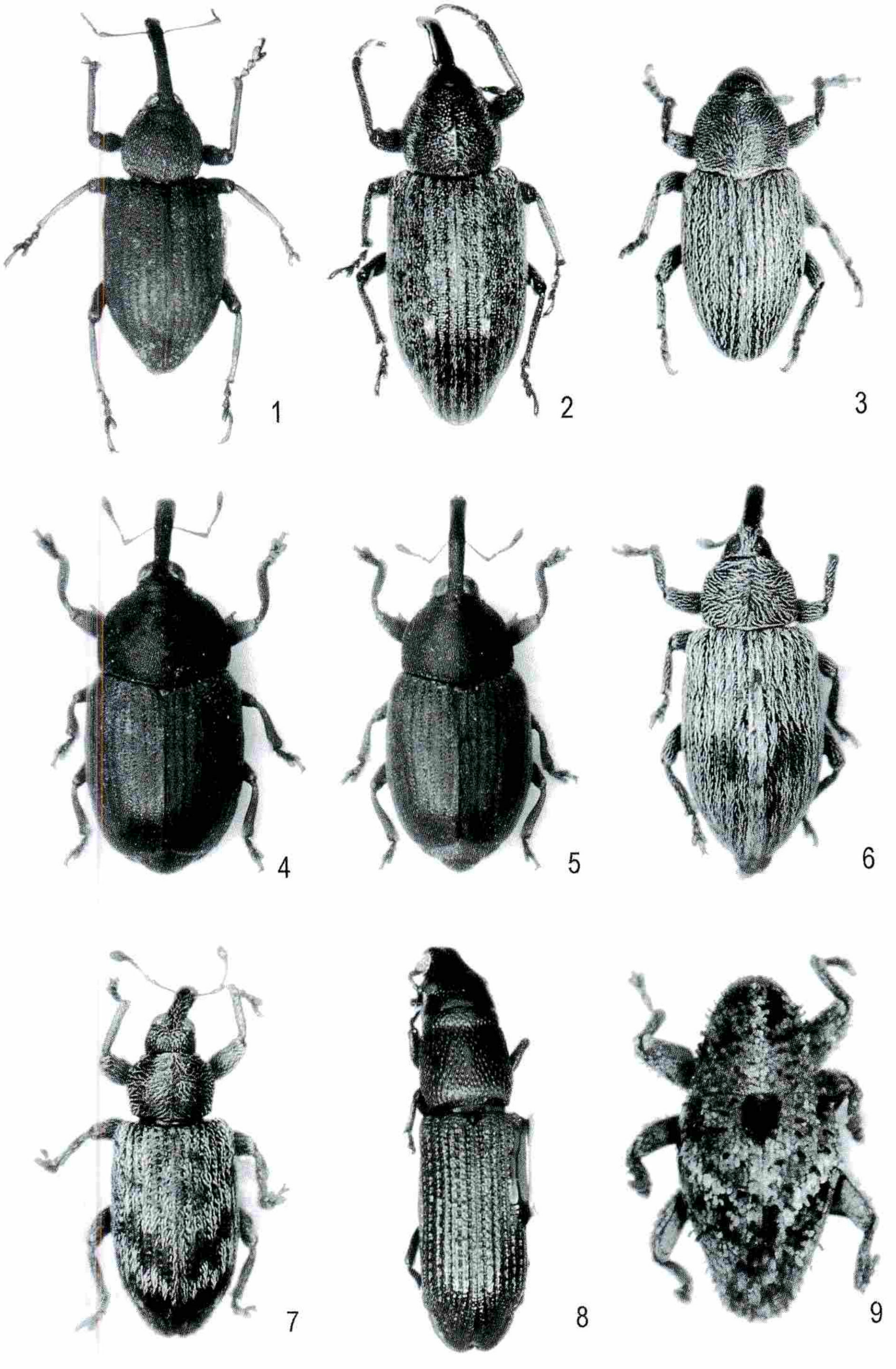
Isochnus populicola (SILVERBERG, 1977)

[Japanese name: Hirata-chibi-nomi-zoumushi]

Rhynchaenus populicola SILFVERBERG, 1977, Notulae Ent., 57: 14 (nom. nov. for *Curculio populi* FABRICIUS, 1792, not LINNAEUS, 1758).
Rhynchaenus (*Isochnus*) *populi* of authors.
Orchestes (*Isochnus*) *populi* of authors.

Specimen examined. 1♂, Sekigami, Natori City, Miyagi Pref., 11. VII. 1958, T. WATANABE leg.

Distribution. Europe to Siberia, Japan (Honshu) – **new record**.



Figs. 1–9. Habitus photographs. 1, *Notaris acridulus* (Linnaeus, 1758); 2, *Tournotaris bimaculatus* (Fabricius, 1787); 3, *Tychius* (*Tychius*) *picirostris* (Fabricius, 1787); 4, *Amorphoidea lata* Motschulsky, 1858, male; 5, Ditto, female; 6, *Ellescus bipunctatus* (Linnaeus, 1758); 7, *Ellescus infirmus* (Herbst, 1759); 8, *Xenomimetes rarus* Zherikhin, 1990; 9, *Ampagia luzonae* Zimmerman, 1945.

Note. This species is easily recognized by its elongate-ovate general shape and flat dorsum having straight dorsal contour from pronotum to top of declivity on elytra when viewed laterally.

Tychiini

Tychius (*Tychius*) *picirostris* (FABRICIUS, 1787)

[Japanese name: Tsumekusa-tane-koban-zoumushi]

(Fig. 3)

Curculio picirostris FABRICIUS, 1787, Mant. Ins., 1: 101.
Tychius (*Miccotrogus*) *picirostris* of authors.
Miccotrogus picirostris of authors.
Tychius (*Tychius*) *picirostris*: CALDARA, 1990, Mem. Soc. ital. Sci. nat. Mus. civ. Stor. nat. Milano, 25 (3): 200.

Specimens examined. Many specimens from the following localities. Hokkaido (Mt. Ashibetsu-dake, Furano City, 26.VI. 1998, N. TAKAHASHI leg.), Tochigi (Kuriyama-mura, 27. VI. 1997, 1. VI. 1998, K. SATÔ leg.), Kanazawa (Kanazawa City, 7. VI. 1997, 17. VII. 1997, K. TAKADA leg.), Okayama (Chûka-son, 21. V. 1993, K. YOSHIHARA leg.), Gifu (Hakusuiko, Shirakawa-mura, Gifu, 28. VI. 2002, K. MORIMOTO leg.; Amou-toge, Gifu, 30. VI. 2002, K. MORIMOTO leg.). Specimens from Akita and Niigata Prefs. were also requested for identification in 2000.

Distribution. Palaearctic region, North America (introduced), Japan (Hokkaido, Honshu) – **new record, introduced and established.**

Note. This European species is widespread in North America and becomes an important pest of white clover known as the clover seed weevil. This is also taken by sweeping of the white clover in Japan artificially sown in pastures and roadsides for a feed crop and a green-cover plant, and its distribution is patchy and discontinuous at present.

Cossoninae

Xenomimetes rarus ZHERIKHIN, 1990

[Japanese name: Atomaru-kobu-kikui-zoumushi]

(Fig. 8)

Xenomimetes rarus ZHERIKHIN, 1990, Coleoptera-Curculionidae of the Russian Far East: 64, fig. 90 (Primorie, Saghalin, Kunashiri). — HORI, 1996, Rep. excel. nat. Areas: 290 (Hokkaido: Okobbe River).

Specimens examined: 1♂, Okobbe-machi, Hokkaido, 17. VII. 1994, S. HORI leg.; 1♀, Senpoku-toge, Akan-chô, Hokkaido, 24. VI. 1986, K. MORIMOTO leg.; 1♂, Hokkaido, 1962 (ex *Picea jezoensis*).

Distribution: Japan (Hokkaido), Russian Far East, Saghalin, Kunashiri Is.

Note. These materials are very close to *X. destructor* WOLLASTON, 1873, but are identified tentatively as *X. rarus* by the more broadly rounded elytral expansion at apex than the latter. These two species together with *X. maritimus* ZHERIKHIN, 1990 and *X. todomatuanus* KÔNO, 1935 need revision for the validity of their species status.

Cryptorhynchinae
Cryptorhynchini

Ampagia luzonae ZIMMERMAN, 1945

[Japanese name: Kurohoshi-momobiro-kuchikakushi-zoumushi]

(Fig. 9)

Ampagia luzonae ZIMMERMAN, 1945, Proc. Haw. ent. Soc., 12 (2): 453, figs. 5 & 6 (♂; Luzon: Irisan, Benguet Prov.).

Specimens examined. Japan (1 ex., Sonai, Iriomote-jima Is., 5. X. 1963, S. MIYAMOTO leg.; 1♂, Maesato-dam, Ishigaki-jima Is., 8. X. 1998, K. TAKAHASHI leg.; 1♂, Nosoko-dake, Ishigaki-jima Is., 3. X. 1998, K. TAKAHASHI leg.); Taiwan (25 exs, several localities in Pingtung, Nantou, Taichung and Taipei Hsiens, V~X. 1963–1980, H. MAKIHARA, T. SAIGUSA, H. SASAJI and T. SENOH leg.); Hongkong (1 ex., Lam Tsuen Valley, 30. V. 1965, Y. MIYATAKE leg.); Philippines (1 ex., Mt. Sto Tomas, Baguio, 1. VIII. 1975, K. MORIMOTO leg.).

Distribution. Philippines (Luzon), Taiwan – **new record**, Hongkong – **new record**, Japan (Ishigaki-jima and Iriomote-jima Isls.) – **new record**.

Odosyllis subcostatus (NAKANE, 1963)

[Japanese name: Togeo-kuro-kuchikakushi-zoumushi]

Syrotelus subcostatus NAKANE, 1963, Fragm. Coleopt., (9): 38 (Tokara: Nakanoshima). – NAKANE, 1963, Icon. Ins. Jap. col. nat. ed., II: 370, pl. 185, fig. 26.

Odosyllis subcostatus: MORIMOTO, 1984, Col. Jpn. in col., IV: 338, pl. 66, fig. 26 (Ryukyus: Nakanoshima, Amami-Ôshima, Okinawa-hontô).

Note. New combination of this species to *Odosyllis* was made without any comment by MORIMOTO (1984).

Eucryptorrhynchus brandti (HAROLD, 1881)

[Japanese name: Shiromune-kuchikakushi-zoumushi]

(Figs. 10, 11)

Cryptorrhynchus Brandti HAROLD, 1881, Mitt. Münch. ent. Ver., 4: 165 (Peking).

Eucryptorrhynchus brandti: HELLER, 1937, Stett. ent. Ztg., 98: 71.

Specimens examined. Japan (1 ex., Mt. Hiko, Fukuoka Pref., 5. VII. 1948, Y. OMORI leg.); Korea (3 exs., Kanweon-do, Kyongi-do); China (4 exs., without locality; 1 ex., Dairen)

Distribution: NE China, Korea, Russia (Primorskii), Japan (Kyushu) – **new record**.

Entiminae
Blosyrini

Dactylotus* (*Nipponoblosyrus*) *falcatus (FAUST, 1882)

[Japanese name: Maru-kakukuchi-zoumushi]

Blosyrus falcatus FAUST, 1882, Deut. ent. Zschr., 26: 262. (Amur).

Dactylotus (*Nipponoblosyrus*) *falcatus*: EGOROV *et al.*, 1996, Key Ins. Russ. Far East, 3 (3): 513 (Russian Far East, Saghalin, Kunashiri, N China, Mongolia, ? Japan).

Blosyrus japonicus SHARP, 1896, Trans. ent. Soc. Lond., :88 (Awomori, Sapporo). — TAKENOUCHI, 1976, Proc. Japan Acad., 52: 127 (*B. japonicus* = *falcatus*). – **synonymy confirmed.**

Note. TAKENOUCHI (1976) noted the synonymy of *B. japonicus* with *falcatus* in his paper on the chromosomes without giving the proper treatment in the taxonomic procedure. This species comprises various races in the chromosome number such as the diploid bisexual, and the tetraploid, pentaploid and hexaploid parthenogenetic, and are often co-exist in the same place (TAKENOUCHI, 1976). The polyploid individuals have a tendency to have larger body size and more amplified pronotum than the bisexual individuals. The type-series of *B. japonicus* in the Natural History Museum, London, includes 4 specimens, of which the type is the largest, 6.6 mm in length, with amplified pronotum weakly incurved before hind corner at each side and a pair of small depressions in the middle of dorsum, whereas in the paratypes the body is smaller, and the pronotum is less amplified, almost not incurved posteriorly on each side, and the dorsal depressions are absent. These paratypes were compared with the cotype of *B. falcatus* having the body 5.7 mm in length and confirmed their identity.

Tanymecini

Leptomias schoenherri (FAUST, 1882)

[Japanese name: Marumune-hyoutan-zoumushi]

Piazomias Schönherri FAUST, 1882, Hor. Soc. ent. Ross., 16: 296 (Amur).

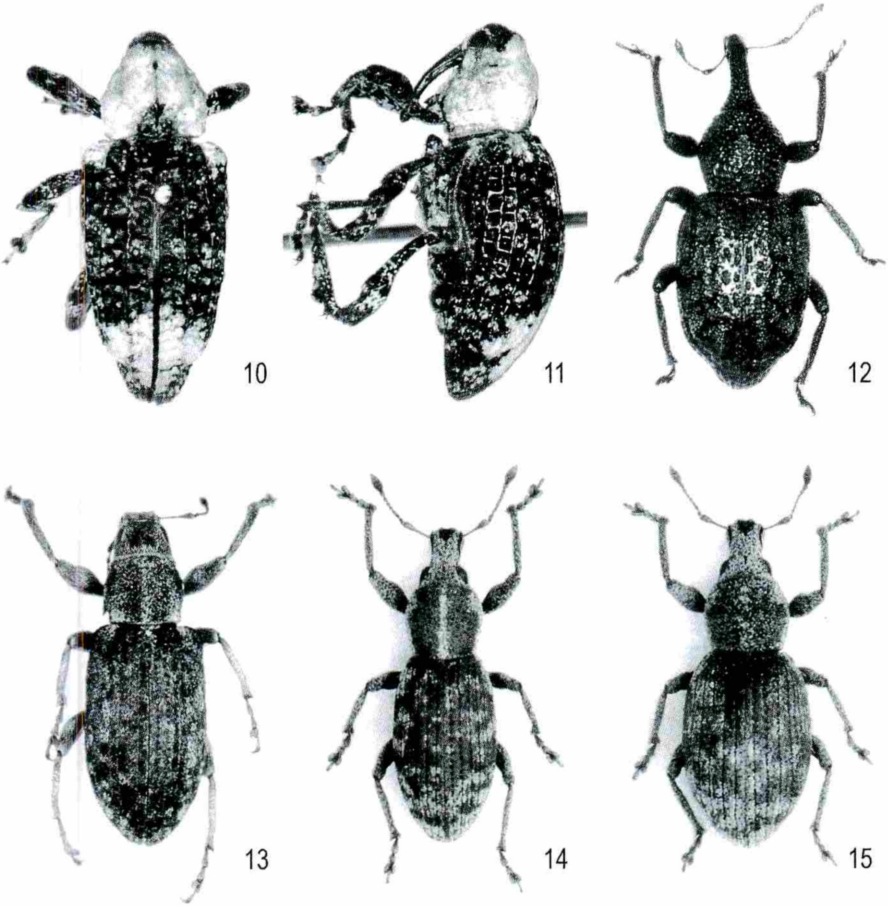
Heteromias (*Piazomias*) *Schönherri*: FAUST, 1888, Stett. ent. Ztg., 49: 286.

Leptomias schönherri: MARSHALL, 1916, Fn. Brit. Ind., Curc.: 172.

Leptomias schoenherri: MORIMOTO, 1984, Col. Jpn in col., IV: 279, pl. 55, fig. 2.

Leptomias (*Leptomias*) *schoenherri*: ALONSO-ZARAZAGA and LYAL, 1999, World Cat. Fam. Gen. Curc.: 181

Sympiezomias amplicollis NAKANE, 1963, Fragm. Coleopt., (9): 36 (Hokkaido: Kamishihoro, Obihiro, Hidaka; Honshu: Noziri in Nagano). — NAKANE, Icon. Ins. Jap. col. nat. ed., II: 363, pl. 182, fig. 3. — **syn. nov.**



Figs. 10–15. Habitus photographs. 10, *Eucryptorrhynchus brandti* HAROLD, 1881; 11, Ditto, lateral; 12, *Kurilio monachus* ZHERIKHIN et EGOROV, 1990; 13, *Sitona tessellatus* KOROTYAEV, 1979; 14, *Cyriophthalmus variegatus* (MOTSCHULSKY, 1845), male; 15, Ditto, female.

Trachyphloeini

Trachyphloeosoma advena ZIMMERMAN, 1956

[Japanese name: Ikoma-keshitsuchi-zoumushi]

Trachyphloeosoma advena ZIMMERMAN, 1956, Coleopt. Bull., 10(2): 28 (Hawaii: Mt. Tantalus, Oahu). — MORIMOTO, 1984, Col. Jpn. in col., IV: 275, pl. 54, fig. 8. — O'BRIEN, 1984, Coleopt. Bull., 38(2): 183 (Alabama, Florida). — O'BRIEN, 1986, Curculio, (20): 4 (= *T. sawadai*).

Trachyphloeosoma sawadai NAKANE, 1963, Fragm. Coleopt., (9): 35 (Osaka: Ikoma). — NAKANE, 1963, Icon. Ins. Jap. col. nat. ed., II: 361, pl. 181, fig. 3.

Note. The brief synonymy is arranged here because the synonymic treatment by O'BRIEN (1986) was made in a newsletter and is little known among Japanese Coleopterists.

Tropiphorini

Cyriophthalmus variegatus (MOTSCHULSKY, 1845)

[Japanese name: Hoso-yama-zoumushi]

(Figs. 14, 15)

Lepesoma variegatus MOTSCHULSKY, 1845, Bull. Soc. Nat. Moscow, 18: 379, pl. 7, fig. 6 (Kamtschatka). — MORIMOTO, 2000, Nat. Hist. Res., Special Issue, (7): 126 (Kamchatka; synonymic list)

Cyriophthalmus inquinatus FAUST, 1887, Deut. ent. Zschr., 31: 167 (Nikolajefsk; Alophinae).

Cyriophthalmus variegatus: KOROTYAEV, 1976, Trud. zool. Inst., Leningrad, 62: 44 (= *C. inquinatus*).

Specimens examined. 3 exs., Metou River, Ashoro-machi, Hokkaido, 3. IX. 1990, K. MIYASHITA leg.; 1 ex., Mt. Ruhku, Shintotugawa-machi, Hokkaido, 31. V. 1993, K. MIYASHITA leg.; 6 exs., Kanoko dam, Oketo-machi, Hokkaido, 8–20. VII. 1994, S. HORI leg.; 90 exs., Nakayama, Oketo-machi, Hokkaido, 23. VI~8. VII. 1994, H. HORI leg.

Distribution. Russian Far East, Japan (Hokkaido) – **new record**.

Note. The type of *C. inquinatus* was examined by MORIMOTO in Dresden. When tested in the key to genera of KISSINGER (1964) and HATCH (1971), this species goes close to the genus *Dyslobus* (= *Lepesoma*) or *Dirotognathus*, and MORIMOTO (2000) treated it once in *Lepesoma*, but is different from the former by the obliterated metepisternal suture at base, and the scaling is similar at the latero-caudal part of metasternum and the base of metepisternum, and from the latter by the prementum as long as wide and weakly depressed base of rostrum on dorsum. This genus was placed in Entimini in the Catalogue of ALONSO-ZARAZAGA and LYAL (1999), but is actually a member of Tropiphorini (= Leptopini) as treated by KOROTYAEV (1976). Weevils were collected by using pitfall trap.

Sitonini

Sitona amurensis FAUST, 1882 — species resurrected

[Japanese name: Amûru-chibi-kofuki-zoumushi]

This species was synonymized with *S. japonicus* REOLOFS by ZHERIKHIN (1972, p. 153), but these are apparently independent and good species by the close examination of both types and the keys to Japanese species including them were given by MORIMOTO (1984, 1988).

Sitona tessellatus KOROTYAEV, 1979

[Japanese name: Akatsumekusa-chibi-kofuki-zoumushi]

(Fig. 13)

Sitona tessellatus KOROTYAEV, 1979, Nasekom. Mongol., 6: 149 (Russian Far East, Mongolia, China (Kansu). – EGOROV *et al*, 1996, Key Ins. Russ. Far East, 3 (3): 503 (?Japan, Russian Far East, Mongolia, N.E. China)

Specimens examined. 1 ex., Zenibako, Otaru, 6. VI. 1994, on *Meliotus* sp.; 9 exs., Nishiminato, Kushiro, 1. XI. 2001; 5 exs., Wakamatsu, Kitami, 22. VI. 2001; 1 ex., Minato-machi, Abashiri, 18. IX. 2001; all collected by T. NIIKOKU on sweet clover.

Distribution. Japan (Hokkaido), Russian Far East, Mongolia, NE China.

Note. This species was recorded from Japan with ?-mark by EGOROV *et al.* (1996), and is confirmed its distribution in Japan. Most of the specimens were collected on sweet clover or around its root, but were not on white clover by Mr. T. NIIKOKU.

Phyllobiini

Phyllobius intrusus KÔNO, 1948 — species resurrected

[Japanese name: Hirazune-higeboso-zoumushi]

This species was synonymized with *P. japonicus* FAUST by KOROTYAEV and EGOROV (1977, p. 430), but they are apparently independent and good species. The types of both species were examined for their identification. *P. intrusus* is the only species feeding on conifers such as *Cryptomeria japonica* and *Chamaecyparis obtusa* among Japanese species and often causes considerable damage. This was established in U. S. A. and reported as a pest of conifers.

Molytinae

Molytini, Plinthina

Kurilio monachus ZHERIKHIN et EGOROV, 1990

[Japanese name: Chishima-zoumushi]

(Fig. 12)

Kurilio monachus ZHERIKHIN et EGOROV, 1990, Coleoptera-Curculionidae of the Russian Far East: 54, fig. 89 (Kunashiri Is.)

Specimens examined. 1♂, Lake Chimikeppu, Tubetsu-cho, Hokkaido, 6–17. VII. 1994, S. HORI leg.; 4 exs., Okirikayama, Fukagawa City, 23~29. VI. 1992, K. MIYSHITA leg.; 1 ex., Nishioka, Sapporo City, 29. V. 1990, K. MIYASHITA leg.; 1 ex., Kitanosawa, Sapporo City, 11. VI. 1993, S. HORI leg.; 1 ex., Kannoniwayama, Sappro City, 29. VIII. 1986, K. MIYASHITA leg.; 2 exs., Ooyma, Monbetsu City, 26–27. VI. 1992, K. MIYASHITA and H. SUGIMOTO leg.; 3 ex., Okurige, Hamamasu-mura, 13. VI. 1992, K. MIYASHITA leg.; 3 exs., Osappe, Lake Kuccharo, 5. VI. 1957, M. TAKAHASHI leg.; 3 exs., Yasosuke, Atsuta-mura, 13. VI. 1992, K. MIYASHITA leg.; 1 ex., Kitoushi, Kushiro City, 18. VII. 1994, K. MIYASHITA leg.

Distribution. Kuril Isles.(Kunashiri Is.), Japan (Hokkaido) – **new record**.

Note. The genus *Kurilio* was established by ZHERIKHIN and EGOROV (1990) in the tribe Plinthini, but the unci of hind tibiae are similar to those of some Erirhininae. KÔNO prepared a taxonomic paper on this genus including at least 3 species in Hokkaido and gave a MS name "*Hikagezo*" on the labels of his specimens. Weevils herein recorded were mostly collected by pitfall traps.

要約

森本　桂・小島弘昭：日本産ゾウムシのシノニムと分布記録. ——— 日本産ゾウムシ上科目録改訂版の準備過程で，分類学的処置や分布上記録しておくべき種が確認されたので，以下

の通り扱った．

新シノニム及びシノニムの再確認：ミツモンヒゲナガゾウムシ *Trigonorhinus trimaculatus* (SENOH, 1986) (= *T. japonicus* MORIMOTO, 1999)，キヒゲホソクチゾウムシ *Eutrichapion* (*Eutrichapion*) *ervi* (KIRBY, 1803) (= *Apion kihige* NAKANE, 1963)，*Rhabdoscelus similis* (CHEVROLAT, 1883) (= シロスジオサゾウムシ *Rhabdocnemis lineatocollis* HELLER, 1912)，*Dactylotus* (*Nipponoblosyrus*) *falcatus* (FAUST, 1882) (= マルカククチゾウムシ *Blosyrus japonicus* SHARP, 1896)（再確認），*Leptomias schoenherri* (FAUST, 1882) (= マルムネヒョウタンゾウムシ *Sympiezomias amplicollis* NAKANE, 1963).

シノニムからの復活：アムールチビコフキゾウムシ *Sitona amurensis* FAUST, 1882 は，*S. japonicus* ROELOFS, 1873 の，ヒラズネヒゲボソゾウムシ *Phyllobius intrusus* KÔNO, 1948 は，*P. japonicus* FAUST, 1889 のシノニムとして扱われたが，それぞれ有効な独立種として認め復活．

日本新記録：フタモンハナモグリゾウム *Ellescus bipunctatus* (LINNAEUS, 1758)，コハナモグリゾウムシ *E. infirmus* (HERBST, 1759)，ヒラタチビノミゾウムシ *Isochnus populicola* (SILVERBERG, 1977)，ツメクサタネコバンゾウムシ *Tychius* (*Tychius*) *picirostris* (FABRICIUS, 1787)，クロホシモモビロクチカクシゾウムシ *Ampagia luzonae* ZIMMERMAN, 1945，シロムネクチカクシゾウムシ *Eucryptorrhynchus brandti* (HAROLD, 1877)，ホソヤマゾウムシ *Cyriophthalmus variegates* (MOTSCHULSKY, 1845)，チシマゾウムシ *Kurilio monachus* ZHERIKHIN et EGOROV, 1990 の9種．

日本での分布再確認：ナガホソクチゾウムシ *Melanapion* (*Melanapion*) *naga* (NAKAKE, 1963) や，ハバビロイネゾウモドキ *Notaris acridulus* (LINNAEUS, 1758)，オオイネゾウモドキ *Tournotaris bimaculatus* (FABRICIUS, 1787)，アトマルコブキクイゾウムシ *Xenomimetes rarus* ZHERIKHIN, 1990，ワタデオゾウムシ *Amorphoidea lata* MOTSCHULSKY, 1858，アカツメクサチビコフキゾウムシ *Sitona tessellates* KOROTYAEV, 1979.

分類学的処置の再確認：トゲオクロクチカクシゾウムシ *Odosyllis subcostatus* (NAKANE, 1963)，イコマケシツチゾウムシ *Trachyphloeosoma advena* ZIMMERMAN, 1956 (= *T. sawadai* NAKANE, 1963).

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Description of a New Species of the Genus *Paratrichius* (Coleoptera: Scarabaeidae) from Taiwan

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Abstract *Paratrichius loi* sp. nov. is described from Taiwan, and compared with *P. nomurai* TESAR.

Key words. Scarabaeidae, *Paratrichius*, Taiwan, new species.

In this paper, the authors will describe a new species, *Paratrichius loi* n. sp. (Scarabaeidae, Trichiinae) from Taiwan. Until now, five species of this genus have been known from Taiwan. Fortunately, one of the authors TANIKADO was offered several specimens from Mr. Jihn-Chi LO, all captured by himself and his son.

The holotype designated in this study will be deposited in the collection of the Osaka Museum of Natural History. Other specimens are preserved in authors' and LO's collections.

Paratrichius loi KOBAYASHI et TANIKADO, sp. nov.

[Japanese name: Kinkichi-tora-hanamuguri]
(Figs. 1–3)

Male. Elongate, ventral surface shining, dark reddish brown, decorated great part with opaque dusty white patches except for middle of metasternum, middle and encircling each abdominal sternites and whole of anal sternite; dorsal surface opaque (sometimes clypeus dully shining); head dark reddish brown; pronotum reddish brown or reddish brown with blackish brown parts, with dusty white circum-marginal line and longitudinal median line, which extends to or close to anterior margin; scutellum opaque, dark orange red; elytra black, each with a dark orange-red and rather broad stripe from shoulder to near posterior angle via suture, with two dusty white bands, which are somewhat zigzag and anterior one lying at one-third and the other at two-thirds from base, and a short spot of the same color near apex; pygidium black, with dusty white, rather broad patches on lateral and posterior margins; antennae and legs shining, reddish brown to dark reddish brown.

Clypeus 1.4 times as broad as long, finely reticulate, rounded at lateral margins, feebly emarginated at anterior margin, somewhat depressed at the sides, feebly convex at the middle; frons punctate in the same manner of clypeus, vertex somewhat coarsely and rugosely punctate.

Eyes prominent, but not so large, about 4 times as broad as frons. Antennae 10-segmented, with club composed of three lamellae, 1.3 times as long as footstalk.

Pronotum 1.3 times as broad as long, bearing several short hairs on sides of anterior margin, coarsely, rather sparsely punctate, the punctures rather dense and somewhat rugose near anterior angles, very sparse before the scutellum; lateral margins broadest near posterior angles, roundly convergent to front; anterior angles weakly protruding though rounded at the tips; posterior margin gently arched. Scutellum 1.4 times as broad as long, rather coarsely, sparsely punctate, lateral margins rounded. Elytra feebly convex, lateral margins weakly arched, rounded at sutural and latero-apical angles, with six striae between suture and shoulder, striae with round and rather rough punctures in rows, several punctures each with a microscopic hair, intervals almost flattened and impunctate, humeral umbone developed.

Pygidium about 1.5 times as broad as long, strongly convex at the middle, roughly aciculate, with a faint longitudinal groove in the middle (sometimes the groove is inconspicuous), bearing rathe even pygidial hairs, which are minuter and shorter at the middle than the rest. Abdominal sternites rather coarsely and transversely strigose, bearing short hairs in vague rows. Anterior tibiae bidentate, each tooth sharp and evident, without terminal spur. Posterior tarsi slender, 1.6 times as long as posterior tibia.

Female. Form somewhat broader than male. Abdominal sternites decorated with dusty white round patches on each lateral side (anal sternite inmaculate). Antennal club almost of the same length as footstalk. Pronotum more convex than in male, 1.4 times as broad as long, lateral margins more rounded than in male, with a slightly longitudinal groove in the middle. Pygidium coarsely and rather densely punctate, with a large depression near apex and a longitudinal groove at the middle. Anterior tibiae broader than in male, outer teeth somewhat large, with a terminal spur. Posterior tarsi almost of the same length of posterior tibia.

Length: 9.5–11.0 mm; breadth: 5.0–5.5 mm.

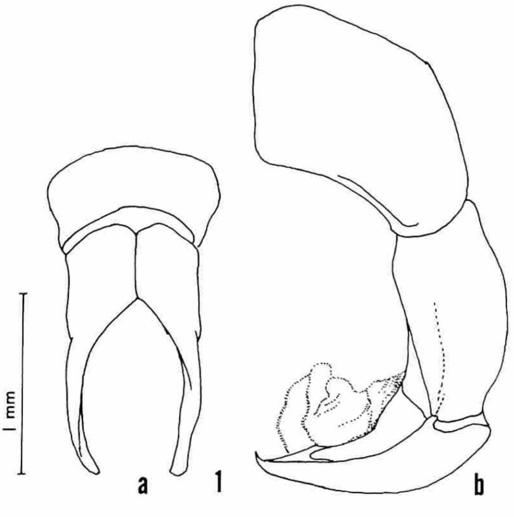
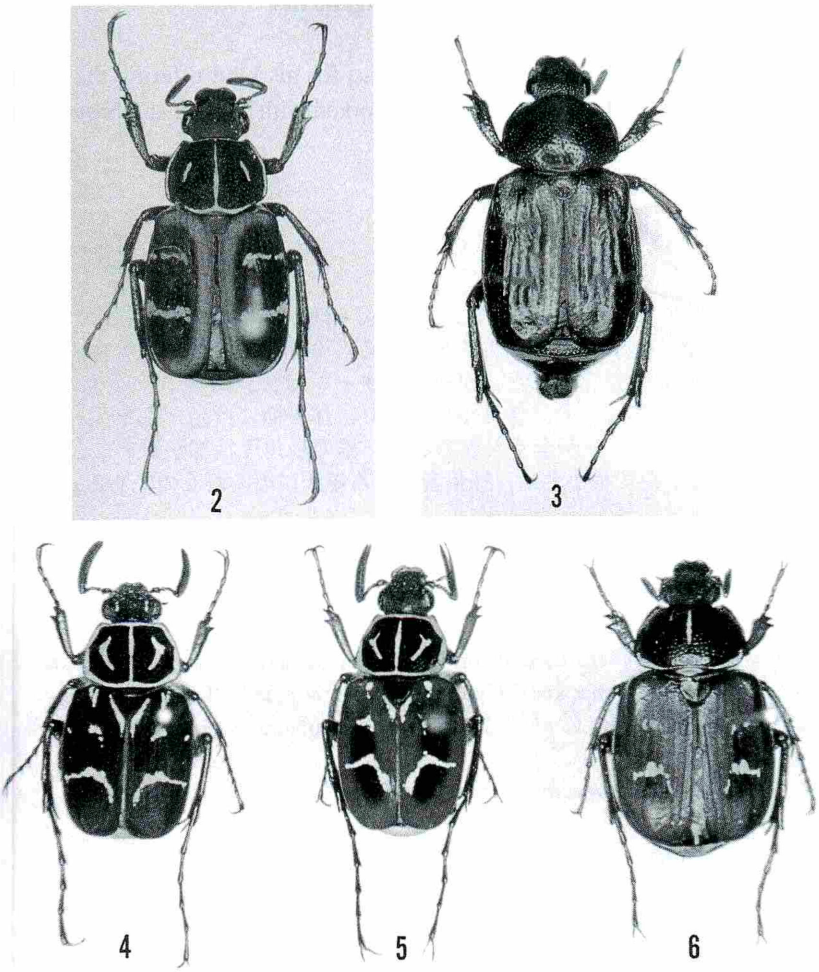


Fig. 1. Male genitalia of *Paratrichius loi* sp. nov.: a, dorso-apical view; b, lateral view.



Figs. 2–6. *Paratrichius* spp. — 2–3, *Paratrichius loi* sp. nov.: 2, male; 3, female; 4–6, *Paratrichius nomurai* TESAR: 4, male from Wufeng, Hsinchu Hsien; 5, male from Lalashan, Taoyuan Hsien; 6, female from Shinanshan, Kaohsiung Hsien.

Type series. Holotype: ♂, Mt. Howangshan, Nantou Hsien, 13. IV. 2002, J. LO leg., Paratypes: 1♂, 1♀, same data as the holotype; 2♂♂, same locality as the holotype, 25. III. 2002, C. LO leg.; 1♂, 1♀, same locality as the holotype, 19. IV. 2002, J. LO leg.

Distribution. Taiwan (central mountain range).

Diagnosis. This species somewhat allied to *P. nomurai* TESAR, 1941 (Figs. 4—6), in maculation pattern, but it may be easily distinguished from by the following points: dorsal surface almost bare; maculation pattern of pronotum and elytra different; antennal club rather short in male; body smaller in sized.

Etymology. This specific name is dedicated to Mr. Jihn-Chi LO who is one of the persons captured this species.

Acknowledgements

The authors are indebted to Mr. Jihn-Chi LO for his kind offering the specimens for this study, and also thanks to Mr. Kunio SATO who worked with Mr. LO and brought the materials to us.

要　約

小林裕和・谷角素彦：台湾産トラハナムグリの１新種. ——— 現在までに，台湾からは5種類の *Paratrichius* 属のコガネムシが知られている。今回，筆者の一人である谷角は台湾の羅錦吉氏より，本種の調査を委託された。斑紋のパターンは，ノムラトラハナムグリ *P. nomurai* TESAR に比較的似ているものの，体は小型であり，体表面には殆ど毛を欠くこと，前胸背板の左右に位置する斑紋パターンが全く異なること，雄の触角片状部が短いこと，などから新種として記載することとした。種小名は，採集者である羅氏に因んだものである。

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Additions to the Subgenus *Ectolabrus* of Genus *Euryusa* (Coleoptera: Staphylinidae: Aleocharinae), with Description of a New Species and Revised Key to Species

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Abstract *Euryusa* (*Ectolabrus*) *hagai*, n. sp., is described on the basis of specimens collected in Hokkaidô and Honshû, Japan. A key to the species of the subgenus *Ectolabrus* is given, and genitalia are illustrated for all the known species. Additional records of *E. pipitzi* and *E. minor* are made, and a distribution map of the Japanese species of *Ectolabrus* is provided.

Introduction

Members of the genus *Euryusa* ERICHSON, 1837 (tribe Homalotini) have been known as myrmecophiles associated with the ant genus *Formica* LINNAEUS, 1758 or *Lasius* FABRICIUS, 1805. MARUYAMA and HLAVÁČ (2002) recognized two subgenera, *Euryusa* and *Ectolabrus* SHARP, 1888, in the genus and revised the latter, which is represented by 4 species distributed in Japan, Europe, Russia, Korea, Taiwan and Nepal. Of those, two species, *E. pipitzi* (EPPELSHEIM, 1887) and *E. minor* MARUYAMA and HLAVÁČ, 2002, are known in Japan. Recently, we have had the opportunity to examine additional material of the subgenus collected in Japan and found some specimens of an undescribed species.

In the present paper, we describe the new species with a key of the species of *Ectolabrus* modified from MARUYAMA and HLAVÁČ (2002) and make additional records of the Japanese species of the subgenus.

Materials and Methods

Most specimens of *Ectolabrus* were collected by beating of dead branch, flight interception traps or fogging. Although considered to be myrmecophiles (MARUYAMA and HLAVÁČ,

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2002), the members of *Ectolabrus* are collected very effectively by these methods rather than by searching host ant nests.

The examined specimens are deposited in the Laboratory of Systematic Entomology, Hokkaidô University, Sapporo, Japan (SEHU), and private collections of Kaoru HAGA, Saitama, Japan (cHag), and Munetoshi MARUYAMA (cMar). Genital parts of specimens were mounted in Euparal dropped on a small slide glass (0.3 mm×5.0 mm×10.0 mm). Each slide glass was glued on a paper board pinned under the specimens from which the genital parts were detached.

Genus *Euryusa* ERICHSON, 1837

Euryusa ERICHSON, 1837: 371 (original description).

Subgenus *Ectolabrus* SHARP, 1888

Ectolabrus SHARP, 1888: 370 (original description); MARUYAMA and HLAVÁČ, 2002: 168 (synonymy, redescription).

Euryusa (*Ectolabrus*) *hagai* MARUYAMA and MIYAKE, n. sp.

Type material. Holotype: ♂, Tomakomai-enshûrin (Tomakomai Experimental Forest, Hokkaidô University), Tomakomai-shi, Hokkaidô, Japan, 7. VIII. 2001, T. MIYAKE (collected by fogging tree canopies) (SEHU). Paratypes: 1 ex., same locality and collector as holotype, 13. VI. 2001 (cMar); 1♀, same locality and collector, 8. VIII. 2001 (cMar); 1 ♂, Miya-gawa, Yamamoto-fudô, Tanakura-chô, Fukushima-ken, Japan, 23. V. 1998, K. HAGA (cMar).

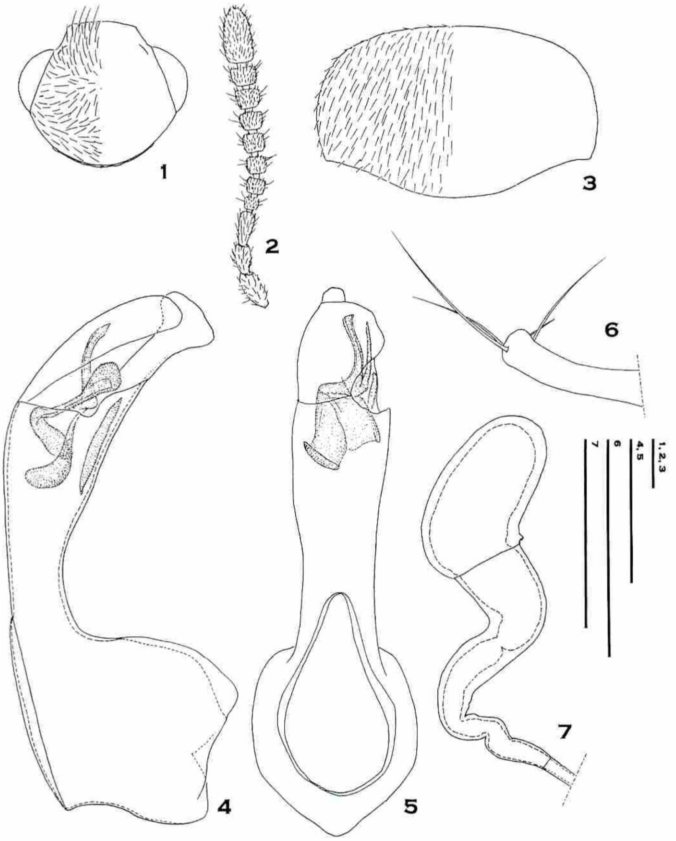
Type locality: Tomakomai-shi, Hokkaidô, Japan.

Distribution. Japan (Hokkaidô, Honshû).

Etymology. Dedicated to Mr. HAGA Kaoru, who collected a paratype of this species and most additional material of *Ectolabrus* examined in this paper.

Diagnosis. This species can easily be distinguished from the other *Ectolabrus* species by the small body and the asymmetric aedeagal median lobe, in which the apical lobe is longer than the capsule and spatulate at the apex. Among the Japanese species, this species is distinguished by the presence of elytral maculation.

Description. Body length: 1.90–2.30 mm; 0.81–0.92 mm (from front margin of head to apices of elytra). Brown in ground colour; antenna, mouthparts, legs slightly paler; elytra somewhat yellowish maculated around shoulder; 3rd to 5th (3rd to 7th in one specimen) abdominal segments reddish brown. Head (Fig. 1) slightly wider than long (width/length = 1.20); clypeus nearly truncate apically; eyes (Fig. 1) large and prominent, their longitudinal diameter longer than postocular part. Antennae (Fig. 2) almost as long as head and pronotum combined; 1st segment stout and apically dilated, nearly twice as long as broad; 2nd segment slightly shorter than the 1st; 3rd segment slightly longer than the 2nd; 4th segment almost as long as wide; 5th to 10th segments gradually slightly wider than long; 11th segment large, much longer than the 9th and 10th combined; relative lengths of the segments from base to apex:– 10.0 : 7.0 : 8.5 : 3.0 :



Figs. 1–7. *Euryusa* (*Ectolabrus*) *hagai*. — 1, head capsule, dorsal view; 2, right antenna; 3, pronotum; 4, median lobe of aedeagus, lateral view; 5, ditto, dorsal view; 6, apical lobe of paramerite, lateral view; 7, spermatheca. Scale: 0.1 mm.

4.0 : 4.5 : 5.0 : 5.0 : 5.0 : 5.0 : 13.5. Pronotum (Fig. 3) much wider than long (width/length = 1.69–1.72) and slightly convex; anterior margin slightly truncate; widest around or just behind middle; posterolateral corner distinct, almost right angled; disc with a large broad shallow depression posteromedially; setae long, directed posteriorly or posterolaterally. Pronotum 0.29–0.34 mm in long, 0.50–0.58 mm in width. Elytra wider than long (width/length = 1.40–1.41), narrowed anteriorly; the setae directed posterolaterally.

Male genitalia: median lobe of aedeagus (Figs. 4, 5) with apical lobe much longer than basal capsule, asymmetric in dorsal view, spatulate at apex in lateral view; inner sac with two asymmetric sclerites. Apical lobe of paramerite (Fig. 6) with 4 setae located at apex.

Female genitalia: spermatheca (Fig. 7) with chamber curved about 4 times; capsule much shorter than the chamber and curved at base.

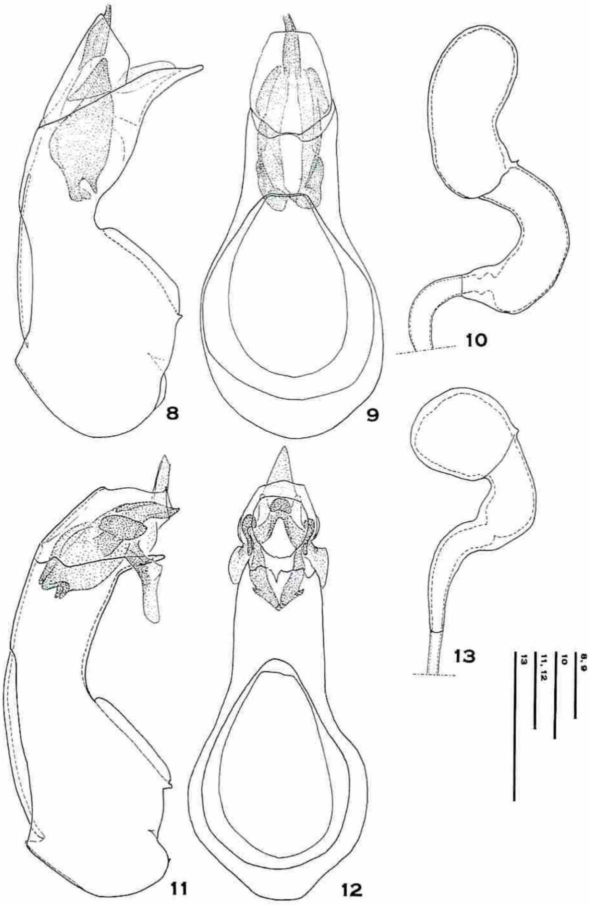
Bionomics. Collected by fogging toward tree canopies at Tomakomai-enshûrin. No other information.

Euryusa* (*Ectolabrus*) *pipitzi (EPPELSHEIM)

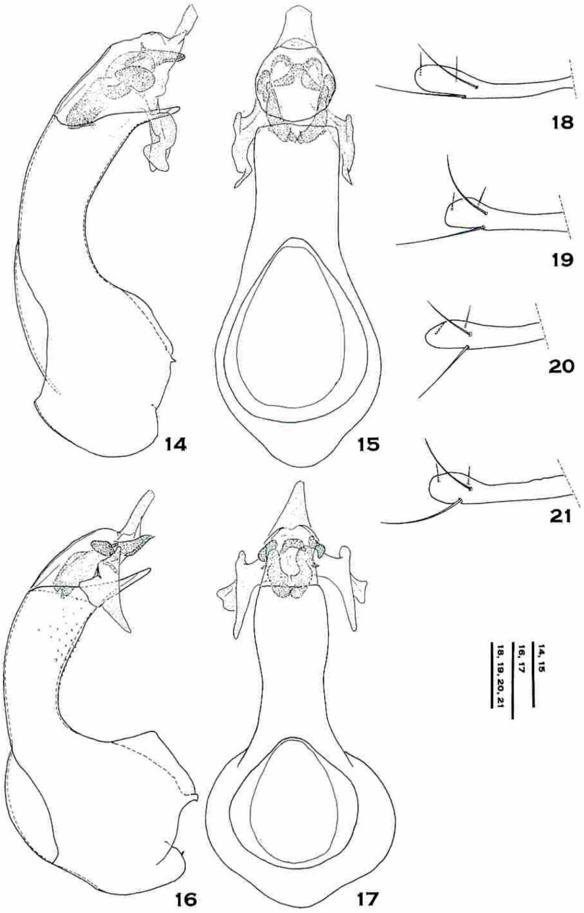
Silusa pipitzi EPPELSHEIM, 1887: 229 (original description). Type locality: Steiermark, Austria.
Euryusa (*Ectolabrus*) *pipitzi*: MARUYAMA and HLAVÁČ, 2002: 174 (synonymy, redescription, host ant information).

Additional records. Japan: [Honshû]: 1 ex., Matsukusa-zawa, Kawai-mura, Iwate-ken, 7. VI. 1998. K. HAGA (cMar); 1 ex., Korobushi-tôge, Shôwa-mura, Fukushima-ken, 13. VI. 1993, K. HAGA (cHag); 1 ex., Ogawa-dani, Nippara, Okutama-chô, Tokyo, 26. IV. 1992. K. HAGA (cMar). All the specimens were collected by beating dead branches.

Distribution. Austria, Japan (Hokkaidô, Kunashiri-tô, Honshû, Shikoku, Kyûshû, Amami-Ôshima), Russia (Far East), Korea.



Figs. 8–13. *Euryusa* (*Ectolabrus*) spp. — 8–10, *E*. (*Ec*.) *pipitzi*; 11–13, *E*. (*Ec*.) *minor*; 8, 11, median lobe of aedeagus, lateral view; 9, 12, ditto, dorsal view; 10, 13, spermatheca. Scale: 0.1 mm. (Modified and rearranged from MARUYAMA and HLAVÁČ, 2002).



Figs. 14–21. *Euryusa* (*Ectolabrus*) spp. — 14, 15, 20, *E.* (*Ec.*) *submaculata*; 16, 17, 21, *E.* (*Ec.*) *inaequabilis*; 18, *E.* (*Ec.*) *pipitzi*; 19, *E.* (*Ec.*) *minor*; 14, 16, median lobe of aedeagus, lateral view; 15, 17, ditto, dorsal view; 18–21, apical lobe of paramelite. Scale: 0.1 mm. (Modified and rearranged from Maruyama and Hlaváč, 2002).

Euryusa* (*Ectolabrus*) *minor Maruyama and Hlaváč

Euryusa (*Ectolabrus*) *minor* Maruyama and Hlaváč, 2002: 178 (original description, host ant information). Type locality: Nemuro-shi, Hokkaidô, Japan.

Additional records. Japan: [Hokkaidô]: 1 ex., Tomakomai-enshûrin, Tomakomai-shi, Hokkaidô, 13. VI. 2001, T. Miyake (collected by fogging tree canopies) (cMar); 3 exs., same locality and collector, 14. VI. 2001; 3 exs., same locality and collector, 15. VI. 2001 (cMar); 2 exs., same locality and collector, 6. VIII. 2001 (cMar); 1 ex., same locality and collector, 10.

VIII. 2001 (cMar); 2 exs., same data except for date 11. VIII. 2001 (cMar); [Honshû]: 4 exs., Miya-gawa, Yamamoto-fudô, Tanakura-chô, Fukushima-ken, 23. V. 1998, K. HAGA (a secondary forest located on the left bank of the Miya-gawa, under dead leaves); 1 exs., Korobushi-tôge, Kurosawahara, Tajima-chô, Fukushima-ken, 12. VI. 1993. K. HAGA (around the starting point of a trail up, by beating dead branches) (cHag); 3 exs. Ôkambazawa-deai, Hirogawara, Ashiyasu-mura, Yamanashi-ken, 3. VIII. 1991, K. HAGA (cMar); 5 exs., Ogawa-dani, Nippara, Okutama-chô, Tokyo, 22. V. 1993. K. HAGA (cHag, cMar); 1 ex., Ôkuri-one, Nippara, Okutama-chô, Tokyo, 2. VI. 1991. K. HAGA (cMar). The specimens with no specified collecting method were taken by beating dead branches.

Distribution. Japan (Hokkaidô, Honshû, Shikoku).

Key to the species of the subgenus *Ectolabrus*

(Modified from MARUYAMA and HLAVÁČ, 2002)

1 Pronotum and elytra irregularly covered with setae, which are not uniformly directed; aedeagus (Figs. 16, 17, 21): dorsal surface of median lobe covered with minute granulae (Figs. 16, 17). .... *E. inaequabilis* MARUYAMA and HLAVÁČ
Distribution: Nepal.

— Pronotum and elytra regularly covered with setae, which are directed posteriorly or posterolaterally; surface of aedeagal median lobe smooth. 2

2 Body length: 1.90–2.30 mm; eyes longer than postocular part; aedeagus (Figs. 4–6): apical lobe of median lobe much longer than basal capsule, asymmetric in dorsal view, spatulate at apex in lateral view; inner sac with two asymmetric sclerites (Figs. 4, 5). .... *E. hagai* MARUYAMA and MIYAKE, n. sp.
Distribution: Japan.

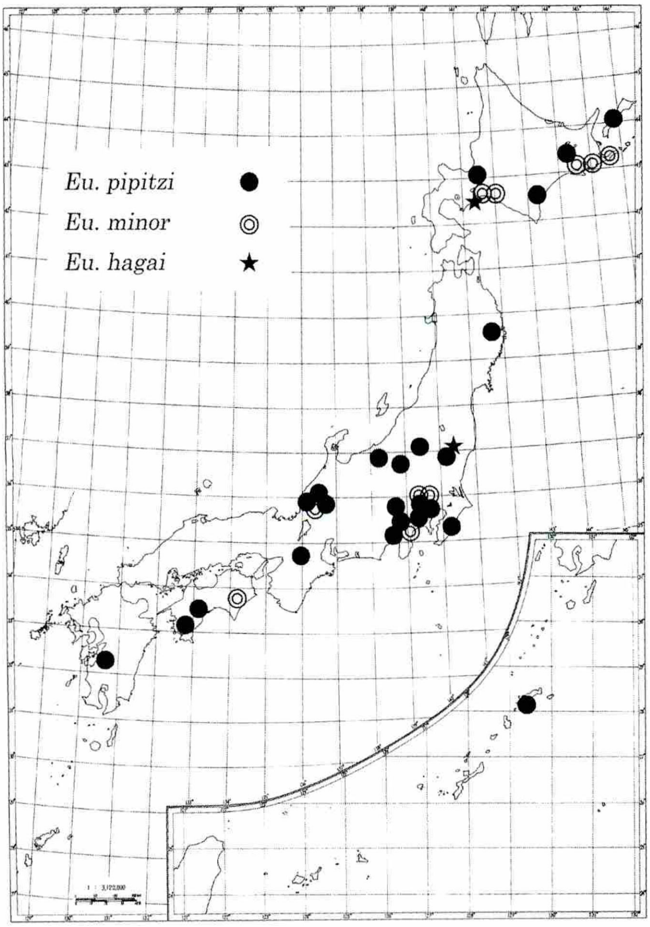
— Body length: 2.85–3.40 mm; eyes as long as postocular part; aedeagus (Figs. 8–15): apical lobe of median lobe as long as or shorter than basal capsule, symmetric in dorsal view, pointed at apex in lateral view; inner sac with a pair of nearly symmetric sclerites. 3

3 Pronotum with ratio of width to length 1.79; elytral shoulder partly conspicuously paler; aedeagus (Figs. 14, 15, 20): inner sac with sclerites not large, not oval (Fig. 14). .... *E. submaculata* MARUYAMA and HLAVÁČ
Distribution: Taiwan.

— Pronotum with ratio of width to length less than 1.72; elytra mostly unicolorous; inner sac with a pair of large oval sclerites. 4

4 Body length: 2.85–2.90 mm; pronotum widest at middle, its posterolateral corners rounded; aedeagus (Figs. 11, 12, 19): apical lobe of median lobe subparallel-sided around middle in lateral view; spermathecal chamber (Fig. 13) twice curved, S-shaped, straight around base, longer than capsule. .... *E. minor* MARUYAMA and HLAVÁČ
Distribution: Japan.

— Body length: 2.95–3.40 mm; pronotum widest behind middle, its posterolateral corners angled; aedeagus (Figs. 8, 9, 18): apical lobe of median lobe with ventral face convex around middle in lateral view; spermathecal chamber (Fig. 10) once curved, almost as long as capsule. .... *E. pipitzi* (EPPELSHEIM)
Distribution: Austria, Japan, Russia, Korea.



Map 1. Distribution of the Japanese species of *Euryusa* (*Ectolabrus*) spp.
*Most localities were recorded in Maruyama and Hlaváč (2002).

Acknowledgements

We thank Mr. Haga Kaoru (Saitama-shi, Saitama-ken, Japan) for giving MM the material, Dr. Takagi Sadao (SEHU) for reading manuscript and Dr. David H. Kistner, an editor of the journal *Sociobiology*, for permitting us to use the figures of Maruyama and Hlaváč (2002). This study was supported by a grant from Research Fellowship of the Japan Society for the Promotion of Science for Young Scientists to MM (DC1).

要　約

丸山宗利・三宅立晃：*Euryusa*属*Ectolabrus*亜属への補遺，日本産1新種と*Ectolabrus*亜属

の種への検索表．——— MARUYAMA and HLAVÁČ（2002）による *Ectolabrus* 亜属の再検討後に得られた標本をもとに，北海道から新種ケシアシボソシリアゲハネカクシ *Euryusa* (*Ectolabrus*) *hagai* を記載し，*Ectolabrus* 亜属の種への検索表を付した．また，アシボソシリアゲハネカクシ *E.* (*Ec.*) *pipitzi* とヒメアシボソシリアゲハネカクシ *E.* (*Ec.*) *minor* の追加記録を行い，従来の記録を含め，日本産本亜属の分布図を示した．

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SHARP, D., 1888. The Staphylinidae of Japan. *Ann. Mag. Nat. Hist.*, **6** (2): 369–387.

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Ent. Rev. Japan, **58** (1): 79–81, April 30, 2003

A New *Strongylium* Species (Coleoptera: Tenebrionidae) Occurring in Japan

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Abstract A new species *Strongylium tanakai* is described from Awajishima Is., western Japan.

In 1999 a new species of the genus *Strongylium* was collected from low mountain (Mt. Senzan, alt. 448 m) near the Sumoto City, Awajishima Is. by Mr. Isamu TANAKA, Nishinomiya. It is in the rare case lately that such a new large tenebrionid beetle was found from urban area of Japan. This new species belongs to the brachypterous group in the genus *Strongylium*, and its body form is such alike *S. impigrum* LEWIS, 1894. I will describe this interesting new species in the following lines.

In this study I am much indebted to Dr. Katsura MORIMOTO, an emeritus professor of Kyushu University, for his critical reading of the manuscript.

The abbreviations used herein are the same as those in my previous papers.

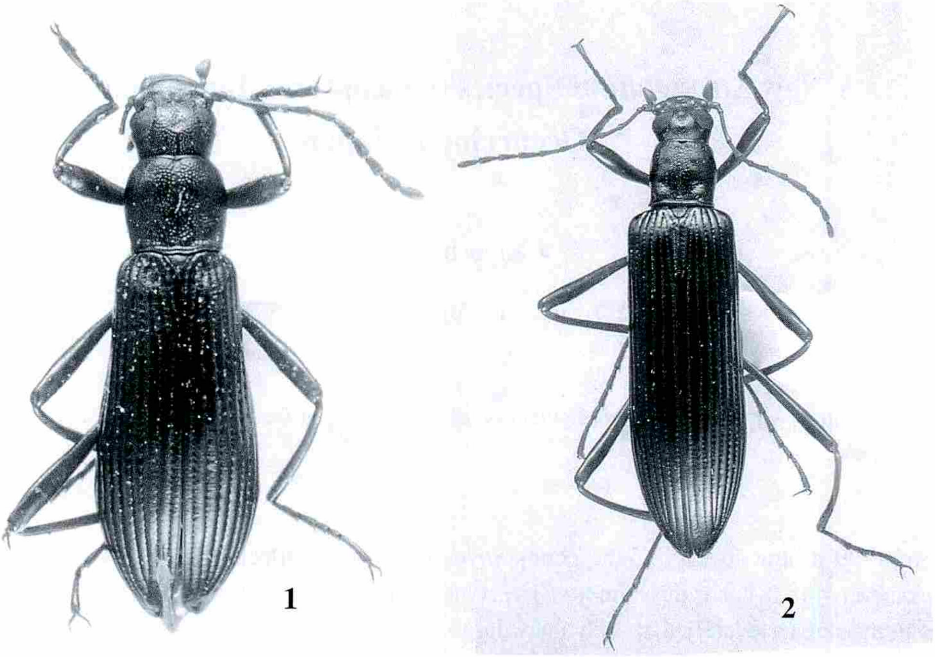
Strongylium tanakai sp. nov.

[Japanese name: Awaji-hanenashi-nagakimawari]

(Fig. 1)

Female. Elongate, rather slender and cucumiform, shiny. Colour reddish brown to dark reddish brown, with elytra black, forehead, anntenae, mesosternum, basal parts of femora, tibiae and tarsi more or less lighter. The combination of the body colour similar to that of *S. impigrum* LEWIS (Fig. 2).

Head a little transverse, strongly convex from frons to vertex, densely and coarsely punctate, the punctures on clypeus a little denser than those on the other, and those on occiput largest; clypeus well produced forwards and curved downwards in apical 2/3, truncate at apex, with punctures setiferous; genae rounded and strongly elevated, microscopically punctate; frons broad with a obsucure depression along middle; IE/TD = *ca.* 1.43 or 1.54, whereas 0.80 in male or 0.91 in female of *S. impigrum*; fronto-clypeal suture deeply depressed. Antennae reaching behind humeral calli, slender but much more robust in five distal segments than those in female of *S. impigrum*. Terminal segment of maxillar palpus narrow triangular, rounded at apex. Mentum obtrapezoidal, 1.8 times as wide as long, depressed and not smooth, with dense and microscopical hair-bearing punctures on corsend surface. Gula semicircular, hardly punctate.



Figs. 1–2. *Strongylium* spp., habitus. — 1, *S. tanakai* sp. nov.; 2, *S. impigrum* LEWIS.

Prothorax barrel-shaped, a little longer than wide (23.0: 22.5), weakly bordered at apex and strongly so at base, finely microsculptured, with a distinct U-shaped depression before middle of base; punctures coarse and dense, almost as large as those of occiput; apical and basal margins truncate; lateal margins present, weakly raised and lineate, feebly arcuate; basal angles not produced; basal margin slightly bisinuate, with border thick and not lamellate. Scutellum large, impunctate, with fine isodiametric microsculpture.

Elytra elongate, EL/EW = *ca.* 2.50, widest at apical 3rd, covered with fine reticulate microsculpture; striae fine, strial punctures lenticular, large and dense, becoming slightly minuter apically; intervals strongly convex, impunctate; scutellar striole long, with similar punctures as on striae; humeral calli hardly swollen; elytral epipleura narrow, not reaching apex of 1st abdominal sternite. Hind wings micropterous, shorter than elytral length.

Ventral side densely microsculptured. Prosternum densely microsculptured; prosternal process narrow linguiform, strongly and steeply sink behind coxae. Mesosternum distinctly raised antero-medially, weakly microsculptured, with a few coarse serial punctures in middle and oblique rugosities and minute punctures at sides, all the punctures hair-bearing. Metasternum coarsely and irregularly punctate in anterior 2/3, the punctures becoming gradually minuter posteriad, but constantly minute and hair-bearing around median line; intermesocoxal process short linguiform, strongly raised. Abdominal sternites rather long respectively, with dense microsculpture and setiferous punctures; three basal sternites finely rugulose, coarsely punctate; 4th and 5th sternites rather densely punctate, the punctures minuter than those on preceding three; 5th sternite with apex weakly depressed, both sides of the depression covered with rather long pubescence.

Trochanters with dense and hair-bearing punctures, legs very slender; meso- and metafemora more or less pedunculate; tibiae simple; LM = *ca*. 18.5, 9.2, 6.7, 15.5.

Male. Unknown.

Type series. Holotype: ♀, Mt. Senzan, Sumoto City, Awajishima Is., Hyogo Prefecture, 22. V. 1999, I. TANAKA leg. (CAEU). Paratype: 1♀, same data as the holotype (PCA).

Diagnosis. This species is very similar to *S. impigrum* LEWIS, 1894, from Japan, but is different from the latter by the following points: hind wings micropterous; eyes smaller, punctures on head denser; pronotum devoid of depressed median line, not produced at basal angles; basal border of pronotum thick, not ramellate laterally.

Etymology. This new species is named after Mr. Isamu TANAKA, who collected this series of types.

要　　　約

安藤清志：日本産*Strongylium*属の1新種．———— 田中勇氏によって兵庫県洲本市（淡路島）の先山（標高448 m）頂上付近の朽木中から採集された*Strongylium*属の1新種を記載した．本種，アワジハネナシナガキマワリ*Strongylium tanakai*は日本産の*S. impigrum* LEWIS, 1894にきわめて類似した特徴を具えるが，後翅が退化しており一見してその相異は明瞭である．種名は本種の採集者である田中氏に献名した．

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Ent. Rev. Japan, **58** (1): 83–94, April 30, 2003

Pattern of Colonization and Differentiation in *Ohomopterus albrechti* and Its Related Species (Carabinae: Carabidae) Inferred from Mitochondrial COI and ND5 Gene Sequences

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Abstract The phylogenetic trees have been constructed using the mitochondrial COI and ND5 gene sequences from *Ohomopterus albrechti* and its related species. It has been found that there exist the geographically linked seven haplotype groups that emerged almost at the same time about 8 million years ago. The colonization pattern and the taxonomic status of these groups are discussed.

Introduction

Ohomopterus is one of the endemic genera of the ground beetles distributed in Japan. Four species-groups have been proposed on the basis of morphology of the copulatory piece in male genital organ (e.g., ISHIKAWA, 1989), although the taxonomy of this genus is still under much discussion.

SU *et al.* (1996a, b) reported that the ND5 phylogenetic tree of the Japanese Carabinae reveals that *Ohomopterus* is clearly monophyletic, and two major haplotype lineages are recognized, i.e., the lineage I that is composed of five sublineages, and the lineage II that is composed of three sublineages. The lineage I (western Japan lineage) includes the following 5 geographically linked sublineages. 1) The northern Kyushu/San-in sublineage (KSI) includes two species, i.e., *O. japonicus* (+ *O. j. daisen*) (J-type; copulatory piece: small triangle) and *O. dehaanii* (D-type; copulatory piece: long triangle). 2) The western Japan sublineage (WJP) includes only one species, *O. yaconinus* (Y-type; copulatory piece: pentagonal). 3) The Sanyô sublineage (SYO) has *O. japonicus* (J) (*O. j. chugokuensis*) and *O. dehaanii* (D). 4) The Shikoku sublineage (SHK) has also *O. japonicus* (J), *O. dehaanii* (D) (+ *O. d. tosanus* [D]). 5) The Japan Sea/NE Japan sublineage (JSE) (including Hokkaidô) shows rather complicated composition of the species and characteristic distribution range.

The JSE sublineage is characteristic in having a wide distribution range across through the Japanese Islands, and includes the following J-type morphological species and subspecies: *O. japonicus tsushimae* from Is. Tsushima, *O. daisen okianus* from Is. Oki, *O. yamato* distributed in the Kinki and Chûbu Districts, *O. kimurai* from Shizuoka, *O. lewisianus* from the Izu

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Peninsula and its vicinity, and a part of the Bôsô Peninsula (*O. lewisianus awakazusanus*), and *O. albrechti*. The last species is distributed mainly east of the Itoigawa-Shizuoka tectonic line, and has been divided into many subspecies based on minor morphological differences which are said to be connected with their distribution areas. They are *itoi*, *hidakanus*, *hagai*, *yamauchii*, *tohokuanus*, *awashimae*, *freyi*, *echigo*, *esakianus*, *tsukubanus*, and *okumurai* (TAKAMI and ISHIKAWA, 1997).

Historically, NAKANE and IGA (1955) recognized only two species which have the J-type male genitalia, i.e., *O. japonicus* and *O. albrechti*, and treated *O. esakianus*, *O. lewisianus*, and *O. yamato* as the subspecies of *O. albrechti*. Later, all of them including *O. albrechti* were downgraded to the subspecies of *O. japonicus*, because of their only small morphological differences (NAKANE, 1963). Contrary to these lump aspects, a recent tendency is to split them into many species and subspecies as mentioned above, thus sometimes resulting in considerable confusion.

In addition to the J-type species, two I-type (copulatory piece: hook-like) species, *O. insulicola* (which is distributed mainly east of Itoigawa-Shizuoka tectonic line) and *O. esakii* (Shizuoka) are included in JSE, which are not treated in this paper.

In this study, we have analyzed the nucleotide sequences of mitochondrial NADH dehydrogenase subunit 5 (ND5) and cytochrome oxidase 1 (COI) genes for the *O. albrechti* and its related species in JSE collected from all over their distribution ranges except the northeastern part of Hokkaidô. The results suggest that the mitochondrial haplotypes of the JSE specimens emerged within a short period into seven groups about 8 million years ago (MYA), followed by expanding their distribution to form the present habitat ranges.

The phylogenetic trees of JSE using both the COI and ND5 genes show that the mitochondrial DNA phylogeny does not coincide, in many respects, with taxonomy and cladistic trees constructed based on morphological differences (TAKAMI and ISHIKAWA, 1997). This situation may be recognized by intermingled occurrence of various morphological “subspecies” in different phylogenetic lines.

The results of this work have been published in the form of several preliminary notes in Japanese, e.g., OYAMA *et al.*, Coleopt. News, (131): 13–14 (2000).

Materials and Methods

The specimens analyzed for the COI as well as the ND5 sequences in this study are listed in Table 1. For the amplification of the COI gene, the primer pair SKCOI-7: 5’-CGC TCT AGA ACT AGT GGA TCA CNA AYC AYA ARG AYA TYG GNA C-3’, and KSCOI-2: 5’-TCG AGG TRCG ACG GTA TCA CRT ART GRA ART GRT GNG CNA CNA CNA CRT ART A-3’ was used. The primers used for the ND5 gene were according to SU *et al.* (1996a). The methods of DNA extraction, PCR amplification, and the construction of the phylogenetic trees by using the unweighted pair grouping method with arithmetic means (UPGMA), maximum parsimony method (MP) and maximum likelihood (ML) were those reported by SU *et al.* (1996a, 1998, 2003). The dating was done, assuming that a 0.01 D unit of the KIMURA’s two-parameter (KIMURA, 1980) evolutionary distance for the ND5 gene corresponds to 3.6 million years (MYR) (SU *et al.*, 1998, 2001). The nucleotide sequence data reported in this paper will appear

Table 1. List of the specimens used in this study

Sample No.	Species name	Locality	DDBJ/EMBL/GenBank Accession no. COI/ND5
1	*albrechti hidakanus*	Rushin, Urahoro, Hokkaido	AB095194/AB095676
2	*albrechti hidakanus*	Mt. Apoi-dake, Samani, Hokkaido	AB095195/D87133
3	*albrechti hidakanus*	Atsuma-damu, Atsuma, Hokkaido	AB095196/AB095676
4	*albrechti hidakanus*	Maruyama, Sapporo, Hokkaido	AB095194/AB095676
5	*albrechti albrechti*	Nagatoyo, Shimamaki, Hokkaido	AB095197/AB095676
6	*albrechti albrechti*	Shirakami-dake, Fukushima, Hokkaido	AB095198/AB095676
7	*albrechti albrechti*	Jinkawa, Hakodate, Hokkaido	AB095199/AB095676
8	*albrechti tohokuensis*	Ishizawa, Kuraishi, Aomori	AB095200/AB095677
9	*albrechti tohokuensis*	Chusonji, Hiraizumi, Iwate	AB095201/AB095678
10	*albrechti tohokuensis-hagai*	Tate, Hara, Fukushima	AB095202/AB095679
11	*albrechti tsukubanus*	Higashiyamada, Makabe, Ibaragi	AB095203/AB095680
12	*albrechti tsukubanus*	Higashiyamada, Makabe, Ibaragi	AB095203/AB095681
13	*albrechti tsukubanus*	Takaku, Nasu, Tochigi	AB095204/AB095680
14	*albrechti esakianus*	Omori, Tochigi	AB095205/AB095682
15, 16	*albrechti tsukubanus*	Nagata, Nihonmatsu, Fukushima	AB095203/AB095680
17	*albrechti esakianus*	Fujisankazusa, Kimitsu, Chiba	AB095206/AB095683
18	*albrechti esakianus*	Fujisankazusa, Kimitsu, Chiba	AB095206/AB095684
19	*lewisianus awakazusanus*	Daigahara, Tomiyama, Chiba	AB095207/AB095685
20	*albrechti awashimae*	Uchiura, Is. Awashima, Niigata	AB095208/AB095686
21	*albrechti awashimae*	Uchiura, Is. Awashima, Niigata	AB095208/AB095687
22	*albrechti hagai*	Kami-Jinai, Shibata, Niigata	AB095209/AB095687
23	*albrechti echigo*	Hainomata, Yunotani, Niigata	AB095210/AB095688
24	*albrechti okumurai*	Nou, Niigata	AB095211/AB095689
25	*albrechti echigo*	Gotenyama, Jyoetsu, Niigata	AB095212/AB095690
26	*albrechti echigo*	Gotenyama, Jyoetsu, Niigata	AB095208/AB095687
27	*albrechti esakianus*	Yagihara, Kurohone, Gunma	AB095213/AB095691
28	*albrechti esakianus*	Tate, Hachioji, Tokyo	AB095214/AB095692
29	*albrechti esakianus*	Tate, Hachioji, Tokyo	AB095215/AB095693
30	*albrechti okumurai*	Mt. Santo, Hinohara, Tokyo	AB095216/AB095694
31	*albrechti okumurai*	Mt. Santo, Hinohara, Tokyo	AB095217/AB095694
32	*albrechti esakianus*	Minoge, Hatano, Kanagawa	AB095218/AB095694
33	*albrechti esakianus*	Minoge, Hatano, Kanagawa	AB095219/AB095695
34	*albrechti esakianus*	Minoge, Hatano, Kanagawa	AB095220/AB095696
35	*albrechti esakianus*	Minoge, Hatano, Kanagawa	AB095221/AB095697
36	*albrechti esakianus*	Minoge, Hatano, Kanagawa	AB095222/AB095694
37	*albrechti esakianus*	Minoge, Hatano, Kanagawa	AB095219/AB095698
38	*albrechti esakianus*	Mt. Kobo, Hatano, Kanagawa	AB095219
39	*albrechti esakianus*	Mt. Kobo, Hatano, Kanagawa	AB095223/AB095699
40	*lewisianus*	Okura, Hatano, Kanagawa	AB095224/AB095700
41	*lewisianus*	Okura, Hatano, Kanagawa	AB095225/AB095701
42	*albrechti esakianus*	Naganuki, Hatano, Kanagawa	AB095226/AB095702
43	*lewisianus*	Mt. Ogi, Otsuki, Yamanashi	AB095227/AB095694
44	*lewisianus*	Arashiba, Oyama, Shizuoka	AB095228/AB095703
45	*lewisianus*	Yamanakako, Fujiyoshida, Yamanashi	AB095229/AB095704
46	*lewisianus*	Tanna-toge, Atami, Shizuoka	AB095228/AB095705
47	*lewisianus*	Ihama, Minamiizu, Shizuoka	AB095230/AB095706
48	*kimurai*	Okura, Fujinomiya, Shizuoka	AB095231/AB095707
49	*kimurai*	Okura, Fujinomiya, Shizuoka	AB095231/AB095694
50	*kimurai*	Kariyado, Fujinomiya, Shizuoka	AB095232/AB095708
51	*kimurai*	Ushizuma, Shizuoka	AB095233/AB095709
52	*albrechti okumurai*	Mukawa, Yamanashi	AB095234/AB095710
53	*albrechti okumurai*	Shoko, Obuchizawa, Yamanashi	AB095235/D87132
54	*albrechti okumurai*	Komachiya, Chino, Nagano	AB095236/AB095711
55	*albrechti okumurai*	Shirasutakenori, Shirasu, Yamanashi	AB095237/AB095712
56	*yamato*	Sanageyama, Toyota, Aichi	AB095238/AB095713
57	*yamato*	Segai, Ayama, Mie	AB095239/AB095714
58	*yamato*	Segai, Ayama, Mie	AB095240/AB095715
59	*yamato*	Sakyo, Kyoto	AB095241/AB095716
60	*yamato*	Soni-kogen, Soni, Nara	AB095242/AB095717
61	*yamato*	Mt. Katsuragi, Chihayaakasaka, Osaka	AB095243/AB095716
62	*yamato*	Kamioka, Gifu	AB095244/AB095718
63	*yamato*	Suganuma, Miyagawa, Gifu	AB095245/AB095719
64	*albrechti echigo*	Otani, Nagano	AB095246/AB095720
65	*albrechti okumurai-echig*	Mt. Chausu, Nagano	AB095247/AB095721
66	*albrechti echigo*	Hibinomori, Tochio, Niigata	AB095248/AB095722
67	*albrechti echigo*	Hibinomori, Tochio, Niigata	AB095249/AB095723

68	*albrechti echigo*	Uzumata, Maki, Niigata	AB095250/AB095724
69	*albrechti echigo*	Uzumata, Maki, Niigata	AB095251/AB095725
70	*albrechti echigo*	Mt. Kakuda, Maki, Niigata	AB095252/AB095726
71	*albrechti hagai*	Shibata, Niigata	AB095253/AB095727
72	*albrechti hagai*	Shibata, Niigata	AB095254/AB095728
73	*albrechti freyi*	Is. Sado, Niigata	AB095255/D87131
74	*albrechti freyi*	Minamikawachi, Ryotsu, Is. Sado, Niigata	AB095256/AB095729
75	*albrechti freyi*	Minamikawachi, Ryotsu, Is. Sado, Niigata	AB095257/AB095730
76	*albrechti freyi*	Iioka, Hamochi, Is. Sado, Niigata	AB095258/AB095730
77	*albrechti freyi*	Iioka, Hamochi, Is. Sado, Niigata	AB095259/AB095731
78	*albrechti freyi*	Is. Sado, Niigata	AB095255/AB095732
79	*albrechti yamauchii*	Oirase, Fukaura, Aomori	AB095260/D87174
80	*albrechti yamauchii*	Mutsu, Aomori	AB095255/AB095733
81	*japonicus*	Is. Oki, Shimane	AB095262/AB095734
82	*japonicus*	Is. Tsushima, Nagasaki	AB095261/D87177
83	*dehaanii*	Sakiyama, Sumoto, Is. Awaji, Hyogo	AB095263

in the DDBJ, EMBL, and GenBank nucleotide sequence databases with the accession numbers shown in Table 1.

Results and Discussion

Phylogenetic trees of the mitochondrial COI and ND5 genes

To analyze the phylogenetic relationships of *Ohomopterus albrechti* and its related species, we constructed the UPGMA-, MP- and ML-trees for mitochondrial COI gene, and MP-tree for ND5 gene, which yielded essentially the same topology (Fig. 1). The COI DNA trees show that the J-type species of JSE are divided into 7 haplotype groups (I–VII in Fig. 1) which are supported by high bootstrap values, except for the group V that is even separated into two clusters in the ND5 tree (Fig. 1d). As seen in the COI trees (Fig. 1a–c), however, the two groups in group V is only weakly clustered with a low bootstrap value. This result may imply that the group V is not monophyletic. The branching order of these 7 groups cannot be determined with certainty, suggesting that they radiated within a short time. Except several important subspecies, the detailed comparisons between the phylogenetic groups by DNA and most of the "morphological" subspecies have not been performed in the following discussion to avoid too much confusion.

Fig. 2 shows the distribution of the haplotype phylogenetic groups. No overlap between the distribution ranges except for a part of Niigata Prefecture indicates that each group is geographically linked. The followings are the details of the origin, distribution, etc. of these groups in relation to geohistory (see Figs. 1 and 2).

I) Group I: This is the most widely distributed group that includes mostly *O. albrechti* and its various subspecies irrespective of the subspecies classification (loc. no. 1–19 in Fig. 2). *O. lewisianus awakazusanus* in the Bôsô Peninsula (loc. no. 19) is also included in this group, suggesting that it is a form of *O. albrechti* and not a subspecies of *O. lewisianus*. The distribution of this group ranges from northern part of the Bôsô Peninsula to Hokkaidô along the eastern half of the Japanese Islands. The samples from Hokkaido (loc. no. 1–7) are very close from each other in their sequences and are also akin to the samples from the coast of the Pacific Ocean of the Tôhoku District (loc. no. 8–19). The phylogenetic relationships within this group together with other facts (see below) suggest that the inhabitant of the Kantô area migrated along the coast of the Pacific Ocean, recently reached Hokkaido, and quickly expanded its distribution

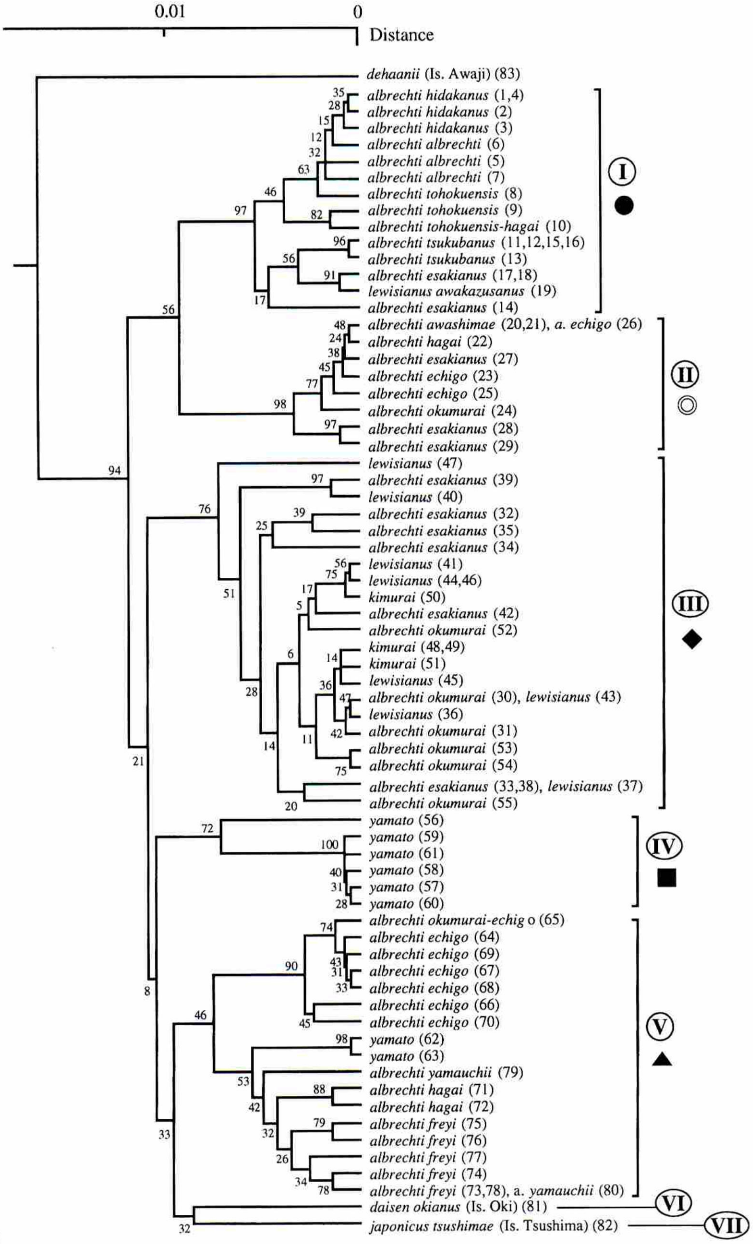

Fig. 1– (a)

Fig. 1. Phylogenetic trees of the mitochondrial COI and ND5 genes for *Ohomopterus albrechti* and its related species. Constructed by UPGMA (a), MP-method (b) and ML-method (c) for COI gene, and MP-tree for ND5 gene (d). Symbols in the trees correspond to those in Fig. 2. For groups I–VII, see the text. Outgroup: *O. dehaanii* from Is. Awajishima. The subspecific names of *O. albrechti* are according to TAKAMI and ISHIKAWA (1997) and those of others are after IMURA and MIZUSAWA (1996).

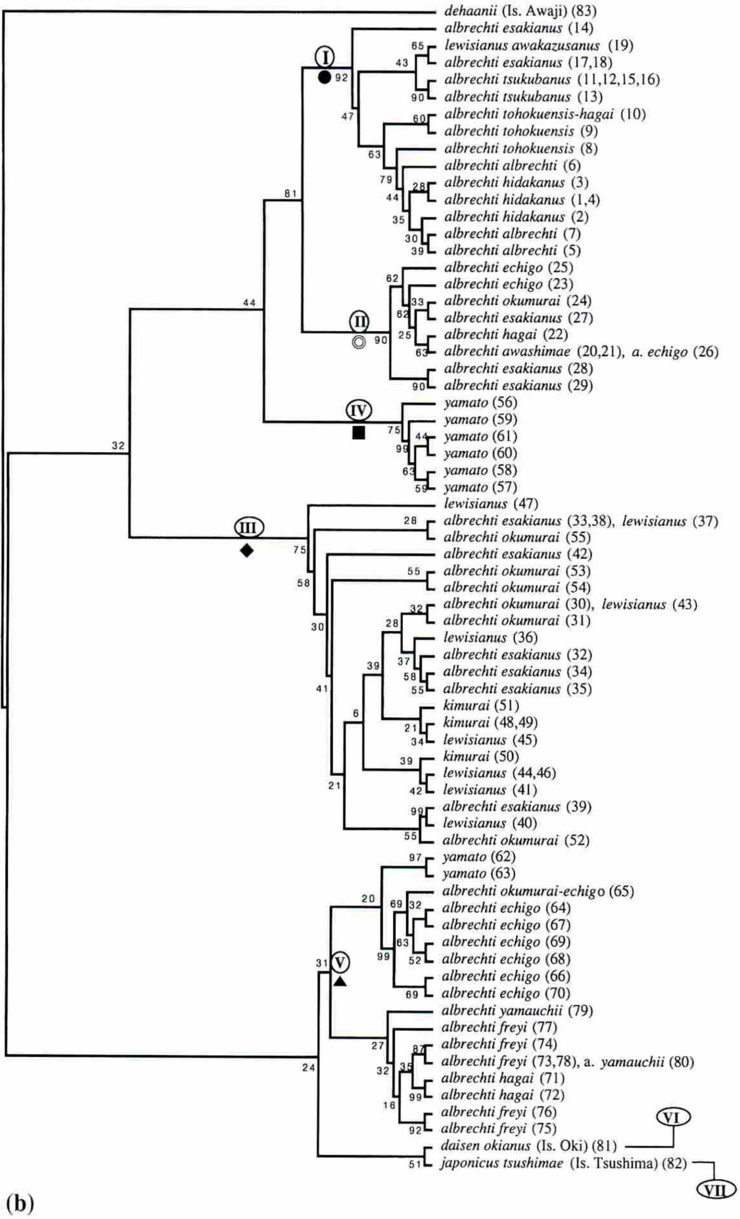

Fig. 1- (b)

there.

2) Group II: This group also consists of *O. albrechti* and its subspecies. The various subspecies are intermingled to a considerable extent (loc. 20–29). The northwestern Kantô District is the main distribution range of this group, which extends to two directions, one reaching Is. Awashima (loc. no. 20 and 21) through Shibata, Niigata Prefecture (loc. no. 22), and another to Itoigawa and its vicinity (loc. no. 24–26). As will be noted later, the Is. Sado population (*O. albrechti freyi*; loc. no. 73–78) is not included in this group. Group I and II may have the same

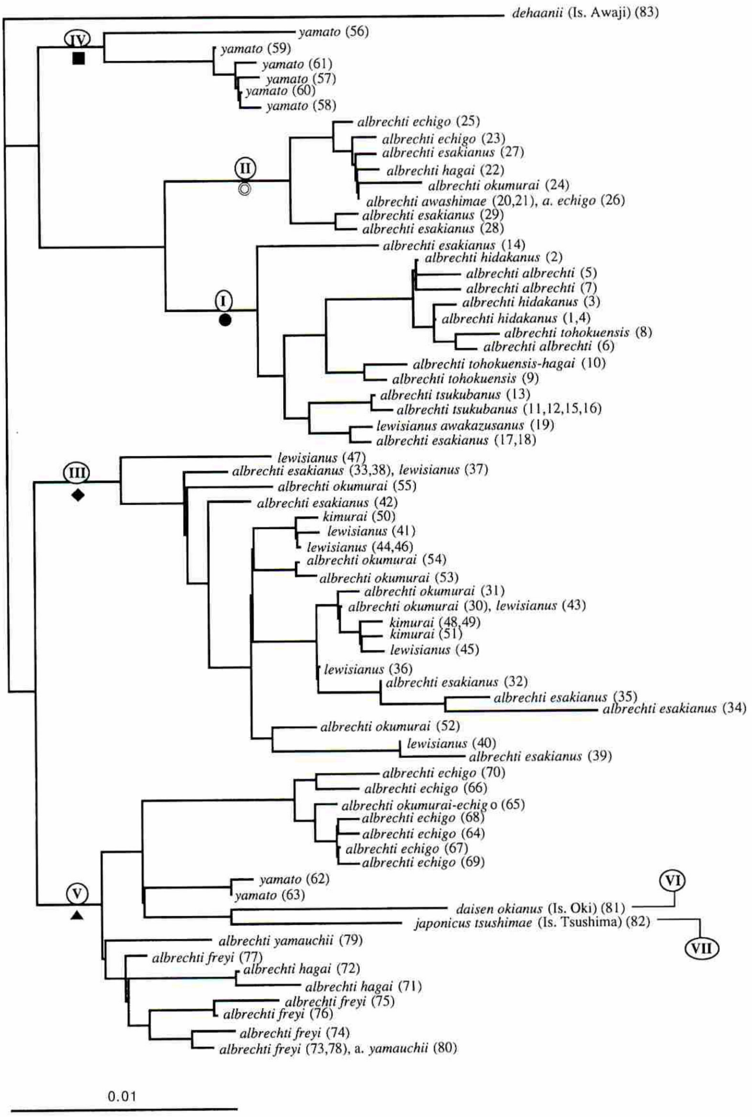

Fig. 1- (c)

origin because they are distantly clustered on the COI trees (Fig. 1a–c).

3) Group III: The main constituent of this group is *O. lewisianus* distributed in Kanagawa Prefecture and its vicinity. A part of *O. albrechti esakianus* (loc. no. 32–34, 39, and 42), and *O. albrechti okumurai* inhabiting each the eastern part and the northwest part of the distribution range of this group is also included (loc. no. 30, 31, 53–55). Furthermore, all the analyzed examples of *O. kimurai* from Shizuoka Prefecture (loc. no. 48–51) belong to this group, and thus its phylogenetic as well as taxonomic independency is not evidenced. Various "species" and "subspecies" are intermingled within this group on the trees without forming the "species"- or "subspecies"-specific clusters (loc. no. 30–55).

4) Group IV: *O. yamato* distributed in the Chûbu and the Kinki Districts belongs to this

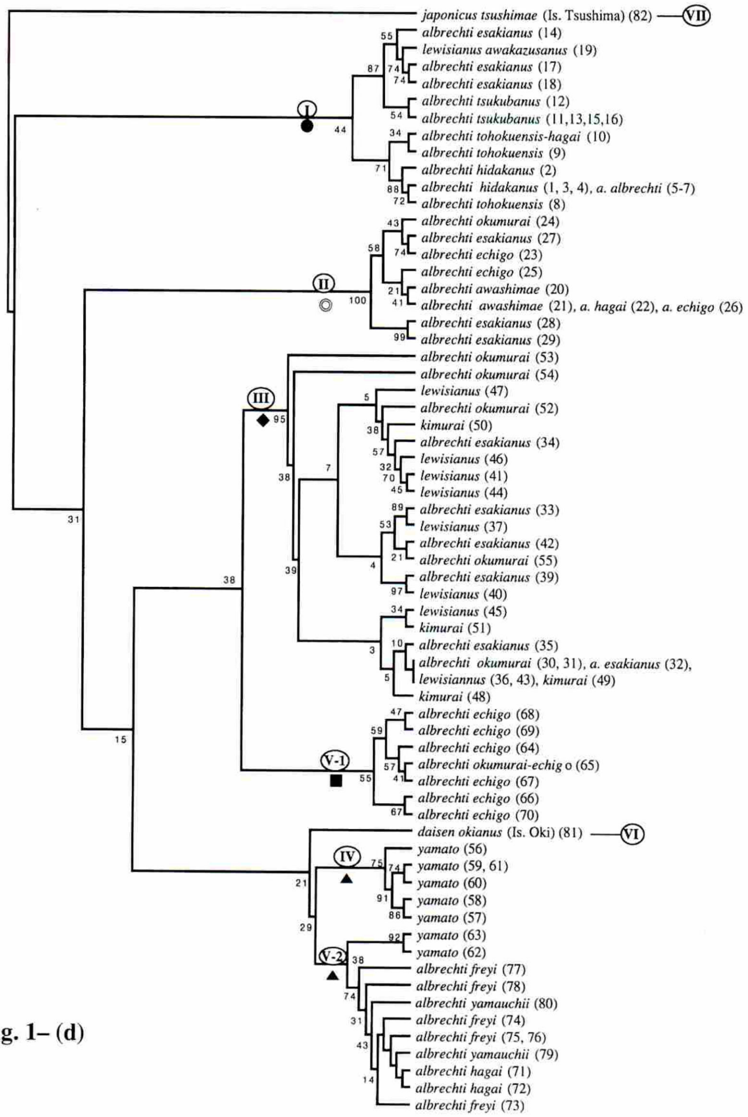

Fig. 1– (d)

monophyletic group (loc. no. 56–61). Near the western edge of the group V (*O. albrechti*, see below), the individuals having group V mitochondrial DNA and the *O. yamato*-type morphology are found (loc. no. 62 and 63). There would be a hybrid zone between *O. yamato* and *O. albrechti*, and the examined examples (locality nos. 62 and 63) would be such hybrids.

5) Group V: This group consists of the inhabitants distributed along the coast of the Japan Sea of the Tôhoku District, i.e., Toyama Prefecture through Niigata and Akita Prefectures to the Shimokita Peninsula, Aomori Prefecture (loc. no. 62–80). The population of Is. Sado (*O. albrechiti freyi*) is also included in this group (loc. no. 73–78). A probable hybrid zone with *O. yamato* exists around the western edge of distribution of this group (see above).

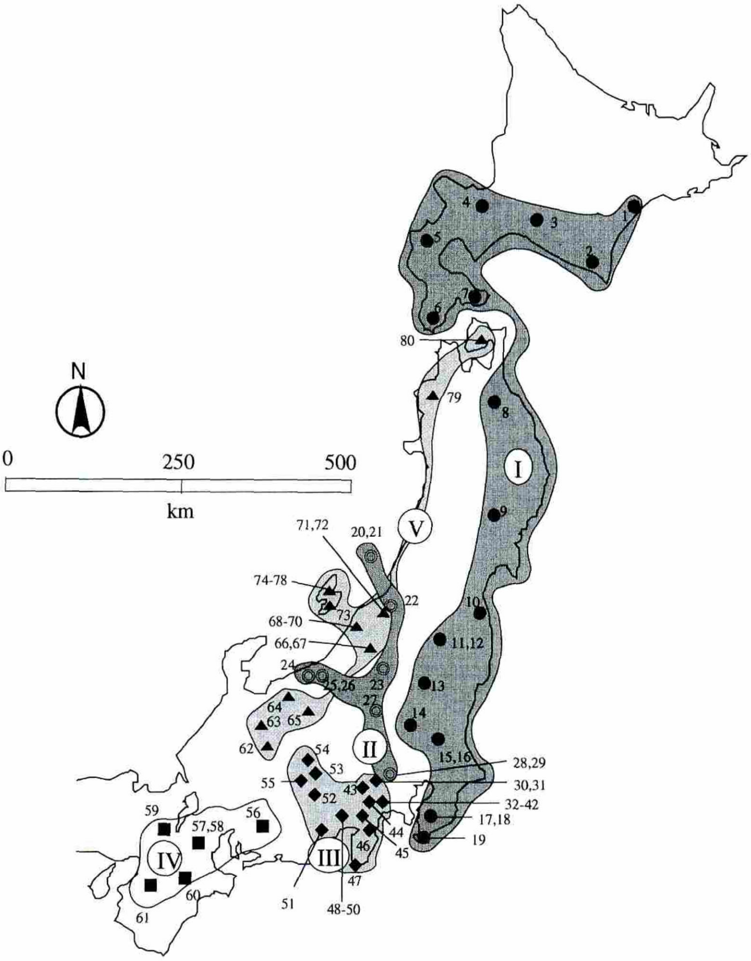

Fig. 2. Distribution map and the localities of the samples analyzed for *Ohomopterus albrechti* and its related species. When samples were collected at the same or nearby localities contain more than two specimens, they are shown by one symbol, among which almost no sequence differences were found. I–V: groups appear in the text and Fig. 1. Groups VI (*O. daisen okianus*) and VII (*O. japonicus tsushimae*) are omitted from this figure.

6) Group VI: *O. daisen okianus* is the only constituent. On the mitochondrial phylogenetic tree, *O. daisen okianus* belongs to the different cluster from *O. daisen daisen* in the mainland Honshu.

7) Group VII: *O. japonicus tsushimae* is the sole constituent of this group. The mitochondrial gene sequence of this subspecies of *O. japonicus* is phylogenetically distinct from that of *O. japonicus japonicus* from Kyûshû, Honshû and Shikoku.

Process of colonization

The specimens used in this study would include some hybrid individuals especially around the border region of the two (sub)species. However, origins of the seven mitochondrial haplotype groups discussed above are old, and there is no doubt as to their existence regardless the history of their migration and occurrence of hybridization, etc. The diversification of the seven haplotype groups started between the time of upheaval of the northeastern Japan (ca. 8 MYA) and of the formation of the Tanzawa Ridge. This estimation is consistent with an assumption that *Ohomopterus* first originated in western Japan and then entered eastern Japan upon disappearance of the Sea of Fossa Magna (see above). However, the route through which each group expanded its distribution to form the present habitat is not easy to trace. As noted above, the group IV (*O. yamato*) is distributed west of the Itoigawa-Shizuoka tectonic line (the western periphery of the Fossa Magna), and the western limit of distribution for the group III and the group V is only a little west of the tectonic line. The groups IV and V adjoin their distribution ranges around the northern part of the tectonic line. On the other hand, the distribution ranges of the groups I and II are clearly in the northeast side of the tectonic line. From these facts, together with the distribution map of each group, it may be speculated that the group IV (*O. yamato*) is the origin of all the groups except the groups VI and VII. A part of the group IV went up north along the coast of the Japan Sea to form the group V, and another part of the group IV migrated eastwards and became to be the group III (mainly *lewisianus* and *kimurai*). A little later, a part of the group III moved northwards to form the group II which finally arrived at Is. Awashima. Alternatively, the group II might have been derived from a part of the Group V. A rather tight clustering of the group I with the group II on the COI phylogenetic trees (Fig. la, b and c) suggests that the group I could be originated from a fraction of the group II, then propagated its distribution northeastwards along the Pacific Ocean side of the Kantô and the Tôhoku Districts, and finally reached Hokkaidô.

It should be pointed out that *Damaster blaptoides* in the southern Tôhoku District, Is. Sado and Is. Awashima belongs to the same lineage (SU *et al.*, 1998), whereas *Ohomopterus albrechti* races from the above three regions differ in their phylogenetic lines. This difference would be attributed to the difference in their evolutionary history linked to the geohistory of the Japanese Islands; migration and expansion of distribution of *O. albrechti* to eastern Japan began at around the time of disappearance of Fossa Magna (9–6 MYA), while the formation of the distribution range of the eastern inhabitants of *Damaster blaptoides* initiated much earlier than that of *O. albrechti* (>10 MYA).

Taxonomic notes

Naturally, the mitochondrial phylogeny *per se* cannot be directly correlated with the taxonomy of the species or subspecies proposed from morphological studies, because (1) taxonomy (or classification) is not necessarily based on phylogeny, and (2) mitochondrial phylogeny does not necessarily reflect the species (or subspecies) history because of possible occurrence of horizontal transfer of mitochondria when hybridization between two species (or subspecies) takes place. However, the present results clearly show the presence of seven phylogenetic haplotype lines, which emerged at about the same time. As the seven groups are phylogenetically nearly equivalent, it is not unreasonable to designate each group as a distinct taxon, taking the oldest name as the representative for each group as follows. The "species" or "subspecies" so identified according to TAKAMI and ISHIKAWA (1997) are shown in pararentheses in each group.

Group I: *O. albrechti albrechti* (*a. albrechti, a. hidakanus, a. tohokuensis, a. hagai, a. esakianus,* and *lewisianus awakazusanus*).

Group II: *O. a. esakianus* (*a. esakianus, a. awashimae, a. hagai, a. echigo,* and *a. okumurai*).

Group III: *O. lewisianus lewisianus* (*lewisianus, a. esakianus, kimurai,* and *a. okumurai*).

Group IV: *O. yamato*.

Group V: *O. a. freyi* (*a. freyi, a. okumurai, a. echigo, a. yamauchii, a. hagai*, and *yamato*, hybrids?). Group V may be divided into two groups (see above).

Group VI: *O. daisen okianus*.

Group VII: *O. japonicus tsushimae*.

Whether each of the above seven groups represents a single species or a subspecies within a species should be debated. In this connection, it is worthwhile noted that, except for the group VI (*O. daisen okianus*) and the group VII (*O. japonicus tsushimae*), the grouping presented above is consistent with the classfication by NAKANE and IGA (1955) who considered that *O. albrechti*, *O. esakianus*, *O. lewisianus* and *O. yamato* are all in the equivalent taxonomic level (subspecies of a single species). So far as the mitochondrial DNA phylogeny is concerned, *O. japonicus* (including many subspecies of it, and *O. daisen daisen*) belongs to a different phylogenetic line from JSE. The origins of *O. japonicus* and *O. diasen*, and their relationships with JSE remain to be solved. It is also hoped to examine whether the phylogeny by mitochondrial DNA is congruous with that of nuclear DNA.

Acknowlegements

We thank Ken OYAMA who performed some of the DNA analyses during his stay in the Biohistory Research Hall, and Hideko KANDA for skillful technical assistance. Thanks are also due to our colleagues for supplying the invaluable specimens.

要　　約

斎藤秀生・蘇 智慧・冨永 修・柏井伸夫・大澤省三: クロオサムシとその近縁種のミトコンドリア遺伝子による分子系統. ———— クロオサムシとその近縁種のミトコンドリアCOI および ND5遺伝子の配列を決定し，分子系統樹を作成した．ここでいうクロオサムシの近縁種とは，ヤマトオサムシ，ルイスオサムシ，スルガオサムシ，ダイセンオサムシの亜種とされるイキオサムシ，ヒメオサムシの亜種とされるツシマオサムシ，および多数のクロオサムシやルイスオサムシの亜種とされるものを含む．系統樹上では，ほぼ同時期に放散し，かつ地域に依存した独立の7系統の存在が認められた．これらは，それぞれ (I) *Ohompterus albrechti albrechti*, (II) *O. albrechti esakianus*, (III) *O. lewisianus*, (IV) *O. yamato*, (V) *O. albrechti freyi*, (VI) *O. daisen okianus*, (VII) *O. japonicus tsushimae* で代表されるが，IV, VI, VII を除き，各系統には複数の“種”または“亜種”が混在する．このように，ミトコンドリアDNA からの区分と形態からの種や亜種区分との間にはかなりの不一致がみられた。それぞれの系統の分布域形成のプロセスについても議論した.

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Note on Species of the Genus *Holosoma* (Coleoptera: Carabidae: Oodinae: Simoini)

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Abstract Three new species of the genus *Holosoma* are described under the names of *H. nigritum*, *H. imurai* and *H. speciosum*, from Sichuan in China and the aedeagal figure and habitus of *Holosoma weigoldi* (HELLER) from the type locality are given.

Species of the genus *Holosoma* SEMENOW are distinct in large size and condition of dorsal surface. The general appearance is similar to each other and reminds me species of the genus *Chlaenius*. Smell of the defensive compound is also the same as that of the genus *Chlaenius*, probably the hydro quinone derivative. Six species of the genus *Holosoma* have been hitherto known from China. I obtained some specimens from Sichuan with *Holosoma weigoldi* (HELLER) from the type locality, Wenchuan and found three additional new species among them. KIRSCHENHOFER (1995) recorded *H. weigoldi* from Li Xian. I compared examples from Li Xian with the species from the type locality, Wenchuan and concluded the species must be different from *H. weigoldi*, because the species of *Holosoma* are convinced to be mutually allopatric and local in distribution.

In this paper I am going to describe them under the names of *Holosoma nigritum* from Jiuzhaigou, *H. imurai* from Heishui Xian, and *H. speciosum* from Li Xian and give the habitus and aedeagal figure of *H. weigoldi*. IMURA *et al.* (2002) claimed that *H. weigoldi* and *H. imurai* (expressed as *Holosoma* sp. by him) may acquaint the similar coloration to sympatric *Megodontoides erwini erwini* MANDL and *M. erwini heishuiensis* IMURA in convergence, respectively. I give short remark about the claim.

Before going further in detail, I would like to express my deep gratitude to Dr. Yûki IMURA, Yokohama for his kind offer of invaluable material collected laboriously by himself. The specific name, *imurai*, is dedicated to him.

Concerning measurement of body, see the author's former papers.

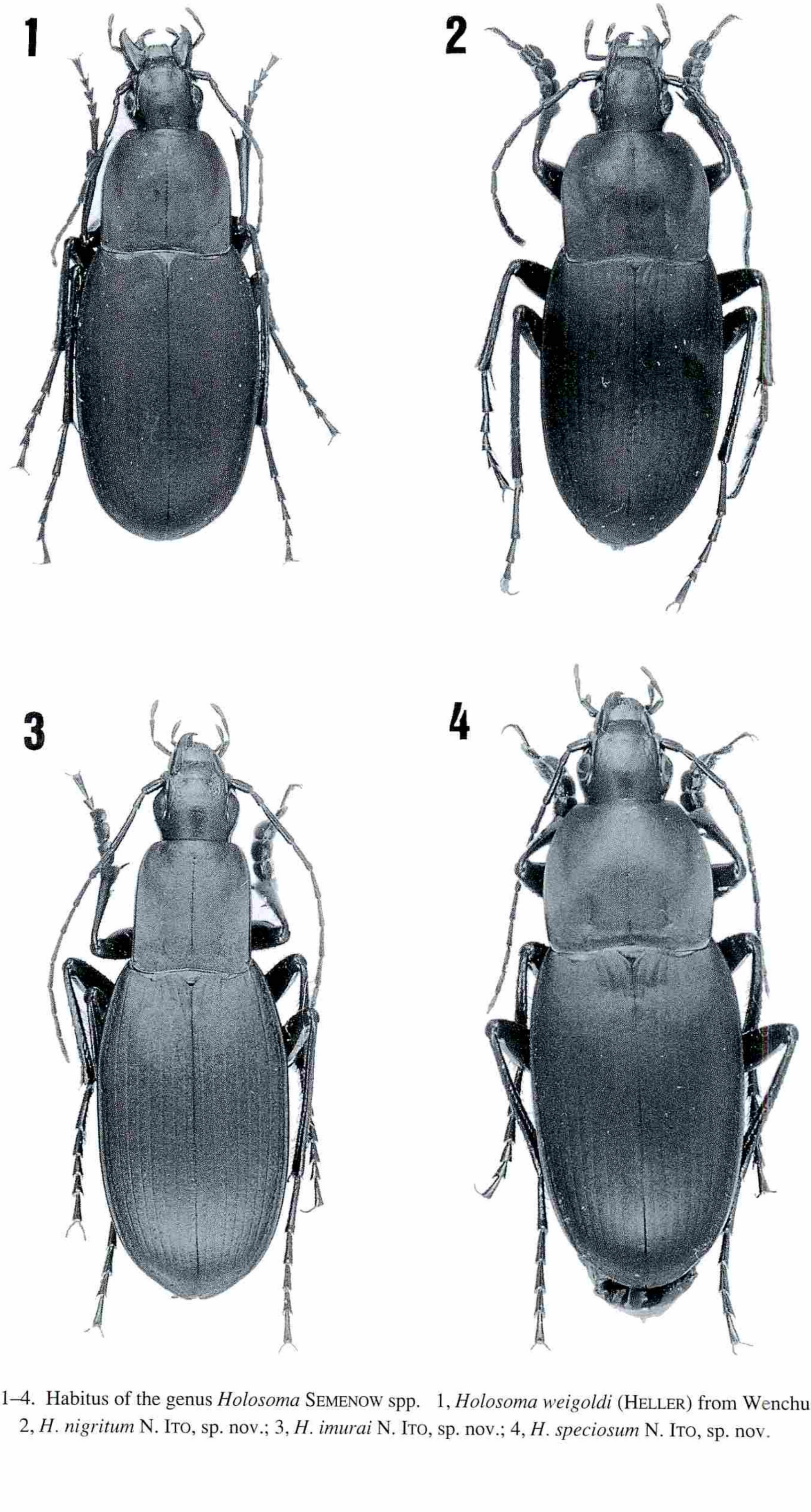
Abbreviation of the depositories are employed as follow: NSMT (the Natural Science Museum (Nat. Hist.), Tokyo), OMNH (the Osaka Museum of Natural History, Osaka), YIc (collection of Dr. Yûki Imura, Yokohama), and NIc (collection of the author).

Holosoma weigoldi (HELLER, 1923)

(Figs. 1, 5)

Paraholoiius weigoldi HELLER, 1923, Entomol. Blätt., 19: 66 (Wentschuan).

Holosoma weigoldi: BASILEWSKY, 1953, Exploration du Parc National de l'Upemba. Bruxelles: 153 — KIRSCHENHOFER, 1995, Zeit. Arb. Öster. Entomol., 47: 82.



Figs. 1–4. Habitus of the genus *Holosoma* SEMENOW spp. 1, *Holosoma weigoldi* (HELLER) from Wenchuan; 2, *H. nigritum* N. ITO, sp. nov.; 3, *H. imurai* N. ITO, sp. nov.; 4, *H. speciosum* N. ITO, sp. nov.

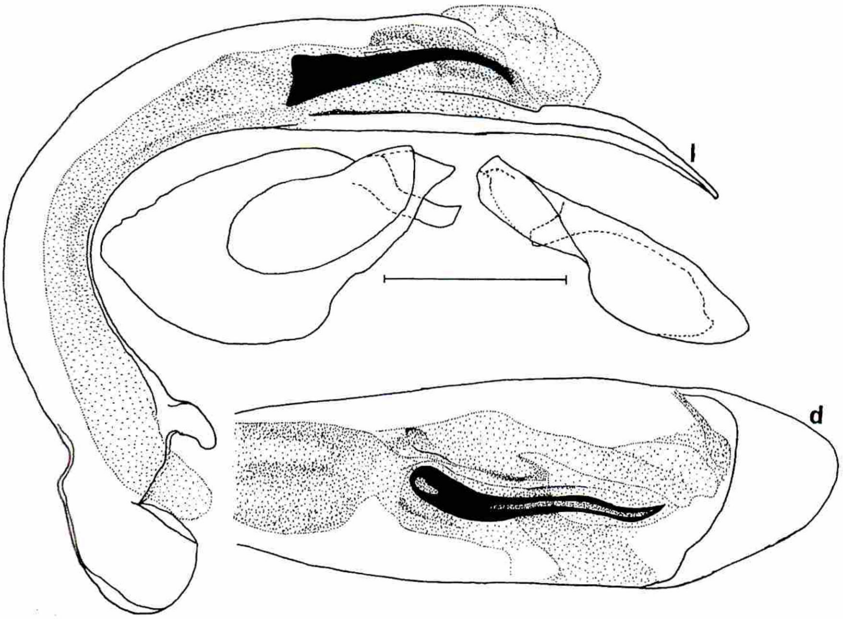


Fig. 5. Male genitalia of *Holosoma weigoldi* (HELLER) from Wenchuan. l, lateral aspect; d, dorsal aspect. Scale: 1 mm.

Specimens examined: 3♂♂, 6♀♀, Riv. Wenchuan, Sichuan, China, 26. VII. 2000, S. MURZIN leg.; 1♂, 1♀, Wenchuan~Yanmen, alt. 1,400 m, N. Bank of Minjian, Wenchuan, China, 15. VI. 2001, Y. IMURA leg.

Length: 18.9–20.9 mm. Width: 7.3–7.6 mm.

Description of male genitalia: Aedeagus (Fig. 5) regularly curved near basal third, thinned at apex which is directed obliquo-ventrad; boundary with membranous portion shallowly stepped, disappeared near apical third; apical orifice very wide, a long copulatory piece of inner sac crooked and longitudinally transparent along middle in dorsal view and robust basally and gently arcuate in apical half in lateral view; apical lobe transverse, asymmetrically triangular, widely rounded at distal margin.

Remark: As noted above, record of this species from Li Xian by KIRSCHENHOFER (1995) must be a misidentification of *H. speciosum*, sp. nov.

Holosoma nigritum N. ITO, sp. nov.

(Figs. 2, 6)

Body rather widely elliptical, black, opaque; ligula and palpi slightly reddish dark brown, apices of palpi light brown.

Head small, a little smaller than three-fifths of the pronotal width, weakly elevated, sparsely and minutely punctate, longitudinally and obscurely rugose near eyes, with interocular space seven-ninths of the width of head; labrum transverse, truncate or barely notched at apex; clypeal apex slightly emarginated; clypeal suture thin, very shallow, and irregularly bisinuate; frontal foveae shallow, ill-defined, fused with indistinct frontal grooves; eyes small, slightly convex;

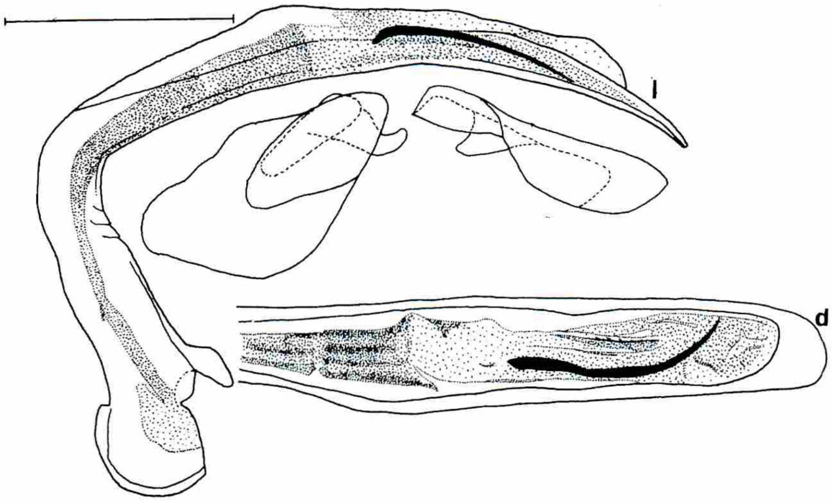


Fig. 6. Male genitalia of *Holosoma nigritum* N. Ito, sp. nov. l, lateral aspect; d, dorsal aspect. Scale: 1 mm.

temples somewhat swollen, three-eighths of the eye length, with several short pubescence spread to near gula; mandibles shaped as usual; antennae short and slender, only apical segment surpassing the pronotal base, 3rd segment bearing several setae and pubescence in addition to ordinary setae, one-fourth longer than the 4th and slightly smaller than three times as long as 2nd; palpi massive, apical segment of labial palpus weakly securiform, one-tenth shorter than the 2nd; ligula wide, parallel-sided near apex, weakly and obtusely protuberant laterad behind the parallel portion, subarcuate or slightly bisinuate at apex; tooth of mentum weakly bifid at tip; microsculpture fine and clear, composed of isodiametric meshes.

Pronotum subtrapezoidal, widest near apical three-sevenths, 1.15–1.17 times as wide as long, almost flattened, very sparsely and minutely punctate; sides rather strongly convergent apicad and very slightly so basad from the widest point, hardly sinuate before base; apex shallowly emarginate, unbordered in middle; base two-thirds wider than apex, shallowly bisinuate, thinly bordered, the border partly broken; apical angles weakly protrudent forwards, narrowly rounded; basal angles rectangular, more narrowly rounded than apical ones; lateral furrows wide, unclear, gradually expanded basad, conjoining basal foveae; basal foveae each occupying external half of basal area, with a narrow groove extending to basal two-fifths; front transverse impression vague, the hind one obsolete; median line fine, clear, obliterated near both apex and base; microsculpture consisting of isodiametric meshes more distinct than those on head.

Elytra weakly oval, one-fourth wider than the pronotal width, rather convex, sparsely pubescent apico-external portions, with very sparse and minute punctures; sides weakly arcuate from base to apical fourth, finely bordered lengthwise, very shallowly sinuate before apices which are widely rounded in each and fused to each other; bases deeply emarginate, reduced at end of 2nd striae, acutely curved near the lateralmost striae and extending humeral angles; striae thin, shallow, and finely punctate, scutellar striole long; intervals flat throughout, 3rd interval not bearing any discal pores; marginal series continuous, though intervals between pores in middle rather wide, composed of 25~30 umbilicate pores; surface clearly reticulate, the reticulation seeming to be squamae. Hind wings fully reduced.

Ventral surface sparsely and minutely punctate on pro- and metasterna, rather densely and coarsely so on mesepisterna, mostly glabrous, with several setae on mesosternum; metepisterum transverse, twice as wide as long; 6th abdominal sternite in male unisetose at each side and slightly depressed beside middle of apical portion and in female bisetose and transversely depressed in the portion, the apical margin very obtusely blunt-angulate in male and widely rounded in female.

Legs not so long as those of *H. weigoldi*; femora slenderer than those of *H. weigoldi*; fore tibiae clearly sulcate in basal half, sparsely punctate; tarsi very sparsely and minutely punctate, hind tarsus 1.90 times in male and 1.70 times in female as long as the width of head, 1st segment as long as the 2nd and 3rd taken together and nearly twice the 2nd, 3rd one-ninth longer than the 4th, claw segment ventrally bearing five spines at outer and four or five ones along inner margin.

Aedeagus (Fig. 6) slender, thinned, subrectangularly curved at basal two-fifths, thence weakly arcuately prolonged distad, feebly directed ventrad at apex; apical orifice large, inner sac with a long and slender copulatory piece which is regularly curved in apical half in dorsal view and slightly arcuate in lateral view; apical lobe asymmetrically rounded at distal margin, 1.70 wider than long.

Length: 14.8–16.9 mm. Width: 5.8–6.9 mm

Holotype: ♂, env. Jiuzhaigou, alt. 2,000 m, N. Sichuan, China, 17. VI. 2002, A. GORODINSKI leg. (preserved in OMNH). Paratypes: 3♂♂, 1♀, same data as the holotype (preserved in NIc).

The new species is similar to *Holosoma rambouseki* JEDLIČKA, but the body is larger in size and not shiny, the antennae and tarsi are black instead of being reddish, and the elytra are more or less arcuate at sides and without any discal pores instead of being with two pores.

Holosoma imurai N. ITO, sp. nov.

(Figs. 3, 7)

Holosoma sp., IMURA and MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371): 25

Body elongate, barely bluish black on ventral surface, dark blue on head, slightly bluish green on pronotum, grass-green on elytra, opaque excepting for weakly shining head; ligula and mentum dark reddish brown, apical portions of palpi light brown.

Head rather small, a little larger than two-thirds as wide as the pronotal width, weakly convex, sparsely and minutely punctate; longitudinally and vaguely rugose; labrum transversely quadrate; clypeus emarginate at apex; clypeal suture shallow, not broken or dot-lined; frontal foveae large, shallow, and ill-defined; eyes small, not prominent; temples each somewhat swollen, a half the eye length, sparsely pubescent, the pubescence extending to gula; genuine ventral margins of eyes widely separated from buccal fissure; mandibles short, rather robust, sharp at apices; antennae long, slender, reaching basal third of elytra, 3rd segment long, nearly one and a half of the 4th and three times as long as the 2nd; palpi slender, 2nd segment of labial

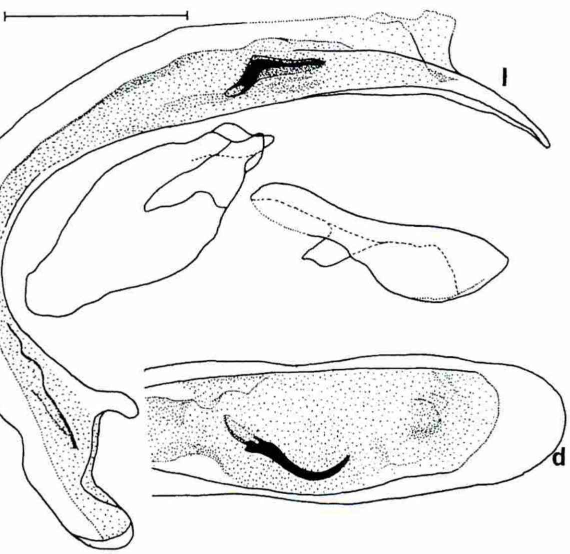


Fig. 7. Male genitalia of *Holosoma imurai* N. Ito, sp. nov. l, lateral aspect; d, dorsal aspect. Scale: 1 mm.

palpus one-seventh longer than the 3rd; ligula abruptly widened forwards, weakly arcuate at apex; mentum with narrow epilobes, median tooth bifid at apex; microsculpture clearly visible, consisting of isodiametric meshes.

Pronotum not trapezoidal, parallel and not sinuate at sides, weakly convergent near apex, 1.02–1.10 times as long as wide, almost flattened, very sparsely and finely punctate all over; apex straight, thinly bordered lengthwise; base a half wider than apex, gently rounded laterally, shallowly emarginate in the middle where fine border is present; both apical and basal angles rounded; basal setae each situated somewhat far apart from base; lateral furrows obscure, gradually widened backwards, conjoining basal foveae which are elongate-quadrate; front and hind transverse impressions lacking; median line clearly engraved, reduced near apex and base; surface so strongly reticulated that it is frosting.

Elytra elliptically elongate, approximately 1.70 times as long as wide, flattened on disc, weakly declivous laterad and more or less so apicad, sparsely short-pubescent laterally and apically, very sparsely with extremely fine punctures; sides gently arcuate, subparallel in the middle, hardly sinuate before apices which are narrowly rounded distal margins and slightly separate from each other; bases deeply emarginate, acutely produced forwards at humeral angles; striae fine, shallow, and punctate, scutellar striole long, reaching 1st striae; intervals quite flat lengthwise, without any discal pores; microsculpture distinct, composed of mixtures with isodiametric and square meshes. Hind wings well vestigial.

Ventral surface sparsely covered with short pubescence on prostenum, and with somewhat long one on meso- and metasterna and 2nd to 6th abdominal sternites; prosternal process thickly bordered; metepistenum transverse, 1.70 times as wide as long; 6th abdominal sternite unistose in male and bisetose in female at each side, distal margin very obtusely and blunt-angulate in male and hardly arcuate in female, shallow concave of apical portion medially interrupted in male and continued in female.

Legs long; femora slenderer than those of *H. weigoldi*, mid femora a little more densely pubescent than those of *H. weigoldi*; fore tibia sparsely and coarsely punctate, with one longitudinal sulcus in basal fourth; tarsi sparsely punctate, hind tarsus 1.95–2.00 times in male and 1.88–1.90 times in female than the width of head, vaguely sulcate on inner side of 1st and 2nd segments, 1st segment almost as long as the 2nd and 3rd taken together, 2nd one-fourth longer than the 3rd and one-third longer than the 4th, claw segment ventrally bearing four or five spines along inner margin and five or six ones along outer margin.

Aedeagus (Fig. 7) slender, regularly curved in basal third, thence weakly thickened distad, thinned and weakly arcuate ventrad; apical orifice widely open, with a short and slim copulatory piece which is arcuate in dorsal view and obtusely angularly bent in lateral view; apical lobe wide, 1.75 times as wide as long, uniformly rounded at distal margin; ventral surface slightly depressed in apical portion.

Length: 19.3–21.2 mm (17.8 mm in one example). Width: 6.9–7.8 mm (6.3 mm in one example).

Holotype: ♂, Yubadu, alt. 2,020 m, Mawo-Shuangliusio, N. Bank of Riv. Heishuihe, Heishui Xian, Sichuan, China, 10~15. VI. 2001, Y. IMURA leg. (preserved in the NSMT). Paratypes: 15♂♂, 27♀♀, same data as the holotype (preserved in YIc and NIc).

This new species is easily discriminated from the other known species by the combination of large and elongate body and grass-green dorsum. The new species is somewhat similar to *Holosoma weigoldi* (HELLER), but in addition to the distinguishable characteristics mentioned in description, the body is narrower and grass-green in color instead of dark blue, and the elytra are a little more finer in striae and lateral borders entirely reaching to tips of apices instead of being obsolete near the tips.

The new species is similar in coloration to sympatric species, *Megodontoides erwini heishuiensis* IMURA, 2002. IMURA *et al.* (2002) pointed out the convergence of the new species with the carabine beetle, the same as the relation between *H. weigoldi* and *M. erwini erwini*. I also confirmed the coloration similar to each other and his opinion must be right. Strictly speaking, further analysis may be, however, needed for clearing whether the similarity of *H. weigoldi* and *H. imurai* with two subspecies, *M. e. erwini* and *M. e. heishuiensis*, respectively, is convergence or only unexpected matter. Coloration is caused by structural factors as the ray diffraction by microsculpture of surface or the ray interference by transparent surface layer, or molecular factor as inclusion of organic metal complex. If the similarity in coloration is caused by the structural factors, the convergence between each pair must occur. Because the characteristics are genetically fixed. If the coloration is due to the same complex, the similarity may be only unexpected matter by common food including the complex in the earth. To explain the phenomenon, it is needed to analyze the type of coloration and their ecologies.

Holosoma speciosum N. ITO, sp. nov.

(Figs. 4, 8)

Body narrowly elliptical, black on ventral surface, clear bluish purple on elytra and a little darker on head and pronotum; palpi, antennae and legs black.

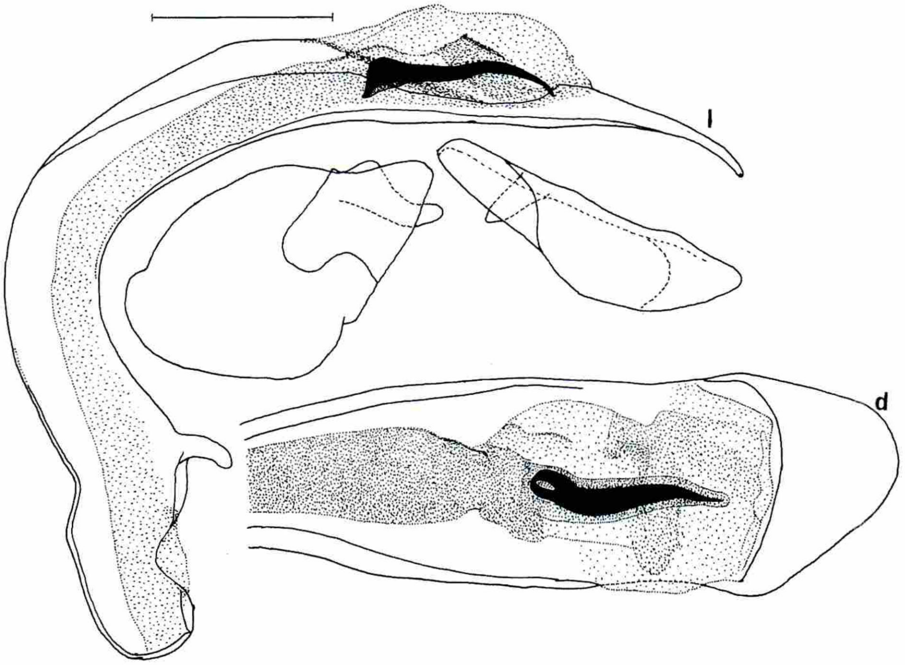


Fig. 8. Male genitalia of *Holosoma spiciosum* N. ITO, sp. nov. l, lateral aspect; d, dorsal aspect. Scale: 1 mm.

Head weakly elevated, relatively small, approximately three-fifths of the pronotal width, minutely and very sparsely punctate; labrum transversely quadrate, with a tiny and blunt notch at middle of apex; clypeus blunt and slightly produced at apical corners, coarsened near apex; clypeus weakly bisinuate, shallow throughout; frontal foveae small, obscure, ill-defined; eyes moderately small, not prominent; temples weakly developed, one-third of the eye length; genuine ventral margins of eyes widely isolated from buccal fissure; antennae slender, fairly long, reaching apical fifth of elytra, 3rd segment bearing very sparse and short pubescence, a little shorter than one and a half of the 4th and three times as long as the 2nd; ligula well wide, acutely protrudent laterad at apical corners, gently arcuate or trapezoidally produced in middle two-thirds; palpi tumid, 3rd segment of labial palpus rather securiform, one-fifth shorter than the 2nd; mental tooth triangularly notched at apex; microsculpture consisting of clear isodiametric meshes.

Pronotum narrowly subtrapezoidal, similar in shape to that of *H. weigoldi*, though not sinuate before base, fairly convergent forwards and barely arcuate backwards from the widest point at middle, weakly declivous apico-laterad, with very sparse and minute punctures; apex shallowly emarginate, with border medially interrupted; base three-fifths wider than apex, finely and vaguely bordered in each lateral fifth, shallowly emarginate in the unbordered area; apical angles weakly produced forwards and rounded; basal angles slightly larger than right angle, narrowly rounded; lateral furrows narrow near apex, thence gradually widened basad; basal foveae each quadrate, ill-defined, with a short longitudinal groove; front transverse impression vaguely carved, the hind one obsolete; median line clear, reduced near both apex and base; surface clearly and isodiametrically reticulated.

Elytra elliptically elongate, two-thirds longer than wide, flattened on disc, weakly sloping laterad, very sparsely and minutely punctate, with short and sparse pubescence apico-laterally; sides gently arcuate, hardly sinuate preapically; apices widely rounded, not separate from each other; bases each deeply emarginate, not surpassing inwards beyond 2nd stria, abruptly curved before lateral end, and forming a very sharp angle with lateral border; striae vague throughout, partly broken, seriately and vaguely punctate; intervals wholly flattened, discal pore of 3rd interval absent; marginal series continuous, composed of 28–30 umbilicate pore; microsculpture clearly impressed, consisting of isodiametric meshes. Hind wings fully vestigial, one-tenth of the elytral length.

Ventral surface mostly smooth, with several minute punctures on pro- and metasterna and metepisterna, and lateral portions of abdominal sternites except for 6th sternite coarsely punctate, sparsely short-pubescent medially on 2nd to 5th abdominal sternites and wholly on 6th one; metepisternum transverse, 1.60 times as wide as long; 6th abdominal sternite in male unisetose and in female bisetose at each side, in male weakly and blunt-angulate at distal margin and almost even near apical portion, in female straight or feebly emarginate at the margin and shallowly concave and slightly humped medially near the portion.

Aedeagus (Fig. 8) uniformly curved behind basal bulb, sublinearly prolonged distad, weakly arcuately directed ventrad at apex, boundary with membranous portion emarginate before apex; apical orifice widely open, inner sac armed with a sinuate copulatory piece which is gently curved in lateral view and not observed longitudinal transparent part in the canada balsam on slide, though the part is detectable in everted condition of inner sac; apical lobe wide, slightly and arcuately projecting laterad in baso-lateral portion.

Length: 19.2–20.8 mm. Width: 7.2–7.9 mm.

Holotype: ♂, Li Xian, alt. 1,700 m, N. Sichuan, China, 24. VI. 2002, A. GORODINSKI leg. (preserved in OMNH). Paratypes; 4♂♂, 1♀, same data as the holotype (preserved in NIc).

This new species is closely allied to *Holosoma weigoldi* (HELLER), but the body is lighter and more clearly bluish in coloration, the pronotum is not sinuate before base but uniformly and slightly arcuately convergent towards base, the elytra are narrower and more sharply produced at humeral angles, and the aedeagus projects laterad in basal portion of apical lobe and bears the longer copulatory piece slenderer and completely bisinuate in dorsal aspect. Those two species are so similar to each other that the new species has a possibility to be treated as a subspecies of *H. weigoldi* when the surveys will be conducted well in the future.

要　　約

伊藤　昇：*Holosoma* 属の種について．———*Holosoma* 属は中国特産で大きな体格，アオゴミムシ族とは別族ながら類似の体型と防御物質（臭気から判断してヒドロキノン系化合物と想定される），顕著な微細構造などを有することで特異な一群である．既に6種が知られているが，本稿でさらに3新種を記載した．本属の種は同じように細く且つ顕著に湾曲する交尾器を持ち形状に大きな差が見られないが，内袋交尾片に特徴が出る．KIRSCHENHOFER が四川省 Li Xian から記録した *Holosoma weigoldi* (HELLER) は，原産地である四川省 Wenchuan の個体と比較した結果，極めて似てはいるが，前胸背側縁基部が波曲しない点，雄交尾器内袋交尾片がより短く波曲が弱い点で異なり *Holosoma speciosum* と命名記載した．その他，四川省

Jiuzhaigou から *H. nigritum* を，四川省Heishui Xian から *H. imurai* を記載した．*H. imurai* は伸張した体型と草色の色彩で本属中の種ではかなり特異である．その種名は，本種の採集者であり標本を快く提供くださった井村有希博士に感謝の意をこめて献名した．

なお井村らは，*H. weigoldi* と *H. imurai* の色彩が，それぞれと同所的に棲息するオサムシの２亜種，*Megodontoides erwini erwini* Mandl（原産地 Wenchuan）および *M. erwini heishuiensis* Imura（原産地 Heishui Xian）に似ていることから収斂であろうとしている．収斂とすれば，両者の発色メカニズムが表面微細構造による光の散乱か透明な表層による光の干渉という遺伝的に固定された因子のどちらかを共有しているはずである．また収斂によってどんな利点があるのかは，これからの課題である．色彩類似性に対する他の要因として類似の金属錯体を持っていることが考えられるが，この場合地質を反映する食物によることが原因と推定され，同じ地域に棲息する種の色彩類似は単なる偶然である可能性が大きい．厳密にどれに当てはまるかを決めるには，生態も含めた更なる分析が必要であろう．

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原稿作成の要領

欧文原稿

1. 原稿はプリントアウトしたものとフロッピーディスクに書き込んだものとを提出する．用紙はＡ４判を用い，左右に3cm以上の余白をあけ，タイプライター，ワードプロセッサーあるいはコンピューターで打ち出したものとする．行間はダブルスペースとし，人名を除いて，表題や見出しを含めていかなる場合も大文字だけでは打たない．フロッピーディスクはマッキントッシュまたはＭＳ－ＤＯＳ フォーマットし，テキストファイルで入力すること．フロッピーディスクを提出できない場合は，プリント原稿をスキャナーで読み取るためイタリックやボールドなどの指定のない文字を使用し，下線や訂正の書き込みのない原稿（コピーでもよい）を一部付ける．2.報文原稿は，表題，著者名，所属機関とその所在地，または住所，刷り上がり10行程度までの（約150語）の英文の著者抄録 (Abstract)，本文，和文要約，文献の順に配列する．提出原稿の一部は無処置で，他の一部は動，植物の属およびそれ以下の学名に下線を引き，また人名には二重の下線を引く（第一字を除いて）．引用文献は著者名のアルファベット順に並べ，下記の形式で記す．

   Blackwelder, R. E., 1936. Morphology of the coleopterous family Staphylinidae. Smiths. misc. Coll., 94 (13): 1-102

   —1952. The generic names of the beetle family Staphylinidae with an essay on genotypy. Bull. U.S. natn. Mus., 200: i-iv+1-483.

   Müler, J., 1925. Terzo contributo alla conoscenza del genere Staphylinus L. Boll. Soc.ent.ital., 50: 40-48.

3. 報文中の採集または検視データは以下のように表記する．

   （例）3♂♂, 2♀♀, Amaishi, Hyôgo, 28. V. 1995, Y. Hayashi leg.

4. 原稿には原稿用紙と同質の表紙をつけ，これに表題，ランニング・タイトル（簡略化した論文表題，— 欧文40字内外），著者名，連絡先を明記し，赤字で原稿及び図表の枚数，別刷りの必要部数, その他連絡事項など記入．
5. 図は耐水性黒色インクで鮮明に描き，そのまま印刷出来るようにする．図の拡大（縮小）率を示したい場合は図中にスケールを入れる．原図には薄紙のカバーをかけ，これに著者名，図の番号，上の方向を示し，図の裏にその種名を入れる．もし原図版上に取り扱い指定文字を入れるときには，必ず青鉛筆を用いる．原図の大きさは，台紙を含めてＡ４判 (210 mm × 295 mm) 以内とされたい．また原図の返送が必要な場合は，カバーにその旨を記入する．
6. 図の説明及び表はそれぞれ別紙に書き，原稿末につける．

編集委員からのお願い

投稿される原稿については，投稿規定並びに原稿作製の要領をよく参照されて作成してください．本文の入ったフロッピーディスクはマッキントッシュまたは ＭＳ－ＤＯＳ のフォーマットされたものに，必ずテキストファイルで入力してください．ワードプロセッサー専用機は専用ＯＳのため，そのままでは取り込みは出来ません．ＤＯＳ 変換したものをお送り下さい．

プリント原稿のみの場合には特に段落がはっきり判るように作成してください．また，段落内の文節や単語の間が開きすぎないようにしてください．スキャナーで取り込むときに文章がバラけて取り込まれ，文章が壊れることがあります．

引用文献については，編集でチェック出来ないものもあるので，本誌の書式をよく確かめてください．また文献名の省略形式も充分確認してください．

人名（欧文）は第一字を除いて小文字で打ち込んで下さい．中国，韓国，タイなど，日本と同じ順序による姓名表記の場合も，欧米式の姓名表記とします（つまり名，姓の順）．

投稿原稿，別刷について

従来超過ページ負担無しを１０ページまでとしていましたが，当分の間１６ページまでとします．また別刷は全て表紙付きとして，表紙代のみ学会負担とし，他の経費は著者負担とします．現在最も高くついているのが製本代です．

和文要約について

評論への投稿原稿には和文要約を必ず付けて下さい．学術用語で打ち出せない漢字もありますが，できるだけ努力します．

一日いれば、くすり博士。

いつの時代にも、どこの国でも、薬は「いつも健康で、長生きしたい」「早く病気をなおしたい」という願いをこめて生み出され、医学とともに進歩してきました。

その薬の歴史を物語る貴重な資料がわかりやすく展示され、だれでも自由に見られるのが「内藤記念くすり博物館」です。

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入場無料・月曜日は休館です。

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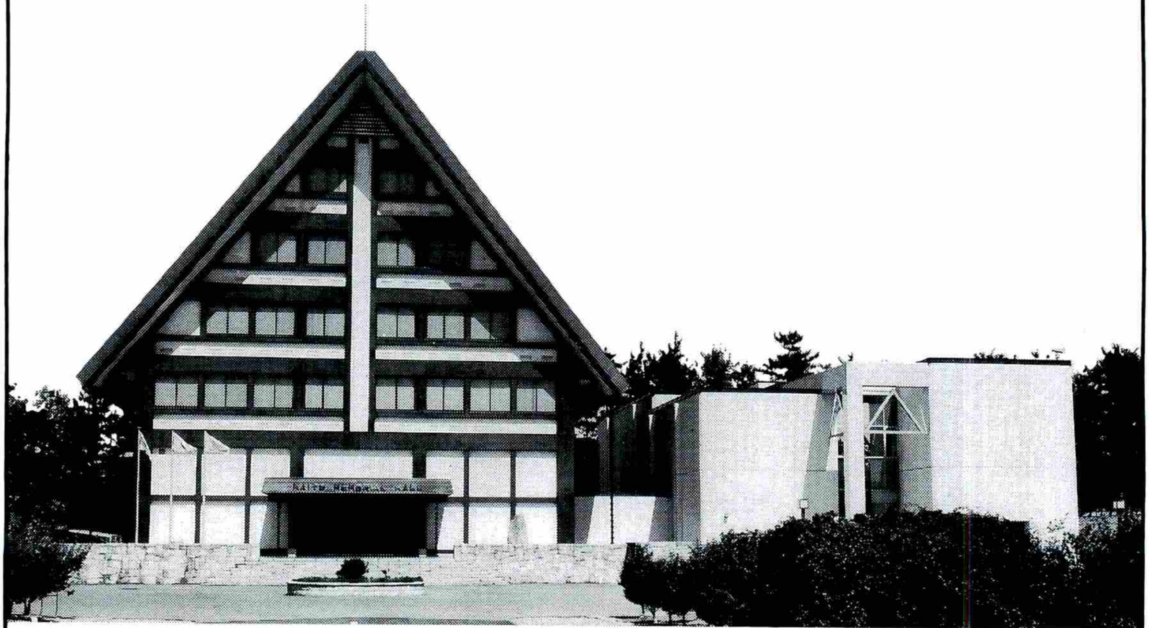

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和文原稿について

和文原稿は，原著に付ける和文要約を除いて，“ねじればね”誌上にのみ掲載するので，新しい分類学的処理を含む内容の論文の掲載は出来ません．“ねじればね”は年4回以上の発行として，1号8～16頁建てとします．分布，生態などの短報，分類学的な解説やノート，同定の手引き，その他役に立つ論説，情報など幅広い内容で紙面を作っていきたいと考えています.

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